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# Heavy-Duty Vehicle Cycle Development

Systems Control, Inc, Anaheim, CA Environmental Engineering Div

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# HEAVY-DUTY VEHICLE CYCLE DEVELOPMENT

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## FOREWORD

The Environmental Protection Agency (EPA) is developing new emission test procedures for heavy-duty vehicles. The major intent of this effort is to develop test procedures that are representative of truck operation in the urban environment.

In support of this development effort, Olson Laboratories, Inc. (OLI) was awarded a contract to generate representative transient engine and chassis cycles for heavy-duty vehicles. The contract began in 1974 and was concluded in May of 1978. The OLI Project Manager was Mr. Malcolm Smith who supervised all work performed under this contract. The Project Officers for this contract were Mr. Leroy Higdon and Mr. Chester J. France, both of the Emission Control Technology Division, Office of Mobile Source Pollution Control, Environmental Protection Agency, Ann Arbor, Michigan.

The contract work had three purposes:

1) To develop software to process the CAPE-21 truck and bus operational data base into a format suitable for generating engine and chassis dynamometer cycles.

2) To develop the software necessary to generate cycles representative of the CAPE-21 data base.

3) To generate representative candidate engine and chassis cycles from the CAPE-21 data base.

This report presents a summary and documentation of the heavy-duty chassis and engine cycle generation process. Additionally, several candidate cycles (engines and chassis) are illustrated.

## ABSTRACT

This report presents a summary and documentation of the work performed under EPA Contract No. 68-03-0411, entitled "Heavy-Duty Vehicle Cycle Development." Program objectives were successfully met with the development of computer software to edit the CAPE-21 heavy-duty vehicle raw-data base, to process the data base into matrix formats suitable for the Monte Carlo generation of representative engine-dynamometer and chassis-dynamometer test cycles, and to generate and analyze cycles. At least 3 candidate cycles were selected for submission to EPA for each of 16 vehicle categories.

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## DEFINITIONS

| | |
|---|---|
| $E$ | Engine speed, rpm |
| $E_I$ | Nominal rpm at idle |
| %E | Percent rpm |
| $E_R$ | Manufacturer's rated rpm |
| $E_U$ | E-upper: Upper limit of engine rpm idle range |
| $E_L$ | E-lower: Lower limit of engine rpm idle range |
| $L$ | Load factor: Manifold vacuum for gasoline engines, rack position for Detroit Diesel Allison (DDA) engines, fuel (rail) pressure for Cummins Engine Co. engines. |
| $L_I$ | Nominal load factor at idle |
| %L | Percent load factor |
| $L_{100}$ | Load factor at maximum power for each rpm |
| $L_0$ | Load factor at zero power for each rpm |
| %R | Percent rack position (DDA engines) |
| %FP | Percent fuel pressure (Cummins engines) |
| $L_{max}$ | Load factor at %R = 0 (maximum power) |
| $L_{min}$ | Load factor at %R = 100 (other extreme of rack position) |
| P | Horsepower |
| %P | Percent horsepower |
| S | Vehicle speed, mph |
| %M | Percent time motoring |
| %I | Percent time idling |
| %C | Percent time cruising |
| %A | Percent time accelerating |
| %D | Percent time decelerating |
| E(X) | Expected value (mean) of X |

| | |
|---|---|
| COV(X,Y) | Covariance between X and Y |
| R(X,Y) | Product-moment correlation between X and Y |
| l.u.b. | Least upper bound |
| exp(x) | $e^x$ |
| $\alpha$ | Type I error probability: The probability of rejecting a test hypothesis when the hypothesis is true |
| $\beta$ | Type II error probability: The probability of accepting a test hypothesis when the hypothesis is false. |
| F | Freeway |
| NF | Nonfreeway |
| C | Combined road type (F + NF) |

# Section 1

# SUMMARY

## 1.1 PROGRAM OVERVIEW

The "Heavy-Duty Vehicle Cycle Development" program, EPA Contract No. 68-03-0411, was awarded to Olson Laboratories, Inc. (OLI) in 1974 for the purpose of: 1) developing software to process the CAPE-21 data base into a format suitable for generating engine-dynamometer and chassis-dynamometer cycles, 2) developing software to generate cycles representative of the CAPE-21 data base, and 3) generating candidate cycles for trucks and buses from the CAPE-21 data base. It will be useful to discuss briefly the CAPE-21 program which preceded this program.

The CAPE-21 program, jointly sponsored by the Coordinating Research Council (CRC) and the Environmental Protection Agency (EPA), was a two-phase program to conduct a heavy-duty vehicle driving pattern and use survey. The purpose of Phase I, conducted by Wilbur Smith and Associates (WSA), was the development of sampling plans for the collection of heavy-duty vehicle operating data in New York City and the Los Angeles Basin.

Phase II of the CAPE-21 program consisted of instrumenting heavy-duty trucks and buses, selected in accordance with the sampling plans, to record operating data during performance of the normal vehicle function. The New York data sample was collected in 1973 and 1974 under the direction of WSA in association with Wyle Laboratories. The EPA directed the collection of the Los Angeles data sample in 1975 with the support of personnel from the EPA and OLI.

## 1.2 DATA COLLECTION

Fifty trucks and five buses were instrumented in each city. After rejection of some vehicles during the data-processing phase because of instrumentation and other problems, the CAPE-21 data base consisted of the operating data for 44 trucks and 4 buses in New York and 44 trucks and 3 buses in Los Angeles. The total data sample used in the generation of cycles included 290 truck-days and 21 bus-days of operation. The truck sample in each city included gasoline-fueled and diesel-fueled engines in each of three vehicle configurations: 2-axle single unit, 3-axle single unit, and tractor-trailer (TT). Each of the buses was equipped with a diesel engine. The composition of the sample and hours of engine-on operation after editing are shown in Table 1.

Table 1. CAPE-21 SAMPLE BY CATEGORY

| CATEGORY | NUMBER OF VEHICLES | NUMBER OF DAYS | HOURS OF ENGINE-ON OPERATION |
|---|---|---|---|
| LA 2-AXLE GAS | 19 | 71 | 213.46 |
| LA 3-AXLE GAS | 1 | 4 | 15.57 |
| LA TT GAS | 7 | 24 | 94.66 |
| LA 2-AXLE DIESEL | 1 | 2 | 8.48 |
| LA 3-AXLE DIESEL | 5 | 21 | 88.40 |
| LA TT DIESEL | 11 | 25 | 121.54 |
| LA TRUCK TOTALS | 44 | 147 | 542.11 |
| NY 2-AXLE GAS | 26 | 83 | 321.39 |
| NY 3-AXLE GAS | 1 | 2 | 9.16 |
| NY TT GAS | 3 | 9 | 44.08 |
| NY 2-AXLE DIESEL | 1 | 5 | 30.70 |
| NY 3-AXLE DIESEL | 5 | 16 | 85.12 |
| NY TT DIESEL | 8 | 28 | 130.69 |
| NY TRUCK TOTALS | 44 | 143 | 621.14 |
| LA BUSES | 3 | 8 | 71.08 |
| NY BUSES | 4 | 13 | 131.02 |
| SAMPLE TOTALS | 95 | 311 | 1365.35 |

Each 10-channel data record, recorded on magnetic tape in digital format at the rate of one record every 0.864 seconds, contained the following information:

| Channel | Parameter |
|---|---|
| 1 | Vehicle ID and time (tens of hours) |
| 2 | Time (hours units and minutes) |
| 3 | Engine speed |
| 4 | Load factor |
| 5 | Vehicle speed (optical encoder) |
| 6 | Road type |
| 7 | Traffic density |
| 8 | Throttle position (open/closed) |
| 9 | Engine temperature |
| 10 | Vehicle speed (tach generator) |

The load factor recorded in Channel 4 is a parameter which is a measure of engine power. It is manifold vacuum for gasoline engines, rack position for Detroit Diesel engines, and rail pressure (fuel pressure) for Cummins diesel engines. The data in Channels 3 through 10 were recorded in units of millivolts of signal level.

## 1.3 DATA PROCESSING AND ANALYSIS

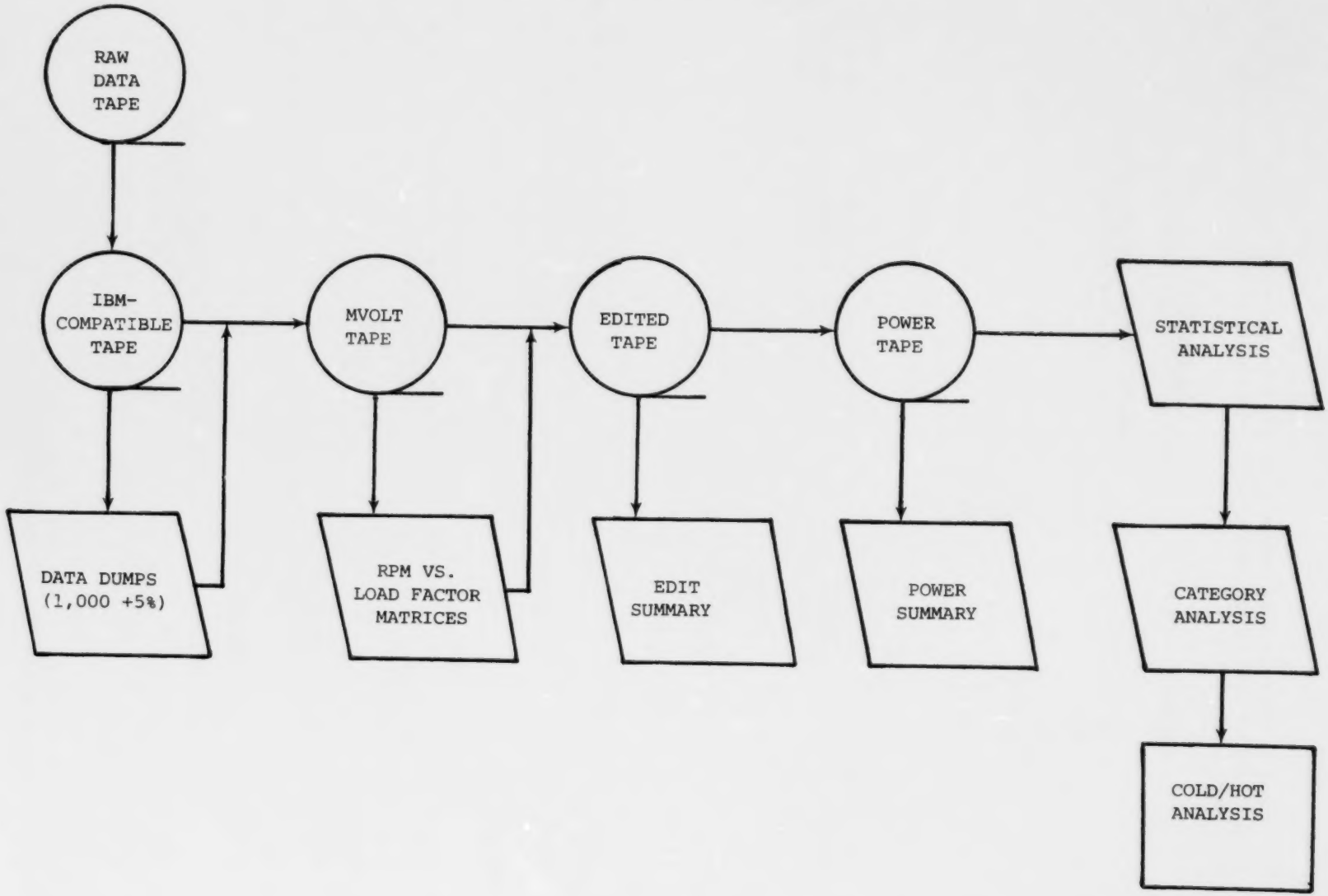
### 1.3.1 Data Editing

The raw-data tapes were recorded with Metrodata Loggers in a 4-track format at a density of 200 bpi and processed by Wyle Laboratories to produce 9-track, IBM-compatible tapes at a density of 800 bpi. Each tape file of the IBM-compatible and subsequent tapes consists of 1 vehicle-day of operation. The various steps taken to convert the raw-data tapes to the final set of tapes used to create the matrices for cycle generation are shown in Figure 1.

The first 1,000 records plus 5 percent of the remaining records in each file of the IBM-compatible tapes were first printed and analyzed to ensure that the instrumentation had worked properly and to determine a starting record for the file. The latter was necessary because the beginning of each tape is noisy due to start-up instability, resulting in zeroed records (a record consisting of all zeroes which is written when a parity error is encountered) and incomplete records. Software unscrambles the packed format in which the Wyle-delivered tapes are written, puts all of the time data in Channel 2, and converts the signal levels in Channels 6, 7, and 8 into 1-digit codes. This creates what are called the millivolted tapes.

A frequency matrix of rpm versus load factor, called the EVSL matrix, is then created for each vehicle. Those matrices provide an initial assessment of the vehicle engine operating pattern and will occasionally identify a data problem missed in the 5-percent audit. Another matrix of rpm versus load factor, called the ZIPEVSL matrix, is created for each truck for just those records when the vehicle speed is zero. That matrix is used to identify a submatrix called the "idle box" which defines the ranges of rpm and load factor within which the vehicle is said to be idling.

Figure 1. DATA PROCESSING AND ANALYSIS FLOW DIAGRAM



The EVSL matrices are also used to determine reasonable maximum and minimum values for rpm and load factor. Those values, together with transducer calibration functions and a model to determine the maximum permissible acceleration rate at each speed, are then input to a computer program which creates edited tapes. The editing procedures accomplish the following:

1. Convert millivolts of engine speed, load factor, vehicle speed, and engine temperature into the appropriate engineering units.

2. Replace a single zeroed record by a record of linearly-interpolated values.

3. Replace two or more consecutive zeroed records with a single zeroed record.

4. Delete engine-off records and replace with a single zeroed record.

5. Replace a single record with bad values by a record with the bad values replaced by linearly-interpolated values.

6. Replace two or more consecutive records with bad values in the same channel by a single zeroed record.

7. Insert a zeroed record before a record which contains a bad value for time of day. (No editing of the time channel was accomplished.)

8. Zero the Channel-5 speed when the Channel-10 speed is zero.

A summary of the number of changes of each type made was printed for each file of data to document what was done during editing.

### 1.3.2 Power Tape Generation

The final step in the tape-processing procedure was the creation of what are called the power tapes. The power tapes are the same as the edited tapes, except that engine speed is converted from units of rpm to percent rpm, %E, and load factor is converted from engineering units to percent power, %P.

The conversion to %E was made with respect to the manufacturer's rated rpm, $E_R$, for each engine and the idle-box rpm-range limits called E-upper, $E_U$, and E-lower, $E_L$. That is, any rpm in the range from $E_L$ up to $E_U$ is an idle rpm. If the value of rpm on the edited tape is denoted by E, and if $E < E_L$, then

$$\%E = \frac{E - E_L}{E_R - E_L} \times 100.$$

When $E > E_U$,

$$\%E = \frac{E - E_U}{E_R - E_U} \times 100.$$

In the case $E_L \leq E \leq E_U$, %E is set equal to zero. That is, %E = 0 when the vehicle is idling. (The vehicle is not considered to be idling, however, unless both the rpm and the load factor are within the idle box.) The normalization of rpm is accomplished so that data from different trucks with different idle conditions can be combined in a meaningful way.

The conversion of load factor to percent power, %P, was accomplished with EPA-supplied horsepower models. In the case of the gasoline engines, it was determined that percent power was essentially equal to percent load factor (manifold vacuum) at each value of rpm, when percent load factor, %L, was appropriately defined. Let $L_{100}(E)$ be the value of load factor at maximum (100 percent) horsepower at E rpm and let $L_0(E)$ be the value of load factor at zero power at the same rpm value E. Then, if L(E) denotes the value of load factor at E rpm,

$$\%P = \%L = \frac{L(E) - L_0(E)}{L_{100}(E) - L_0(E)} \times 100. \qquad (1\text{-}1)$$

It should be noted that the values $L_0(E)$ were measured on the Los Angeles gasoline trucks from idle rpm to about rated rpm in increments of 250 rpm. Linear interpolations were performed to determine $L_0(E)$ values between the measured values and to extrapolate values from idle rpm down to 300 rpm. The latter was selected to be the minimum reasonable rpm value.

It was not possible to measure the $L_0(E)$ values for the New York gasoline trucks because the trucks were no longer available at the time the gasoline horsepower model was defined. Therefore, the $L_0(E)$ data for the Los Angeles trucks were normalized with respect to the idle for each truck and the normalized data were averaged to obtain what is called the average L-Zero curve. That average L-Zero curve, suitably denormalized with respect to idle for each New York gasoline truck, was then utilized to compute %P for the NY gasoline-truck sample.

The horsepower model for the rack-position diesel engines was developed by the EPA from engine dynamometer data supplied by Detroit Diesel Allison (DDA) for an 8V-71N engine with N-65 injectors. The data for that engine were used because 14 of the 20 Detroit diesels in the CAPE-21 sample were 8V-7INs and all 13 engines in the Los Angeles sample had N-65 injectors. One of the seven DDA engines in New York was determined to have N-65 injectors, but it was not possible to ascertain injector type for the other engines.

DDA supplied 92 data points which were supplemented by an additional 36 points, obtained by interpolation and based on EPA analysis. Engine power was normalized to the maximum horsepower at each measured value of rpm and the load factor (rack position) was normalized to maximum rack travel and denoted by %R. A regression analysis was conducted and the horsepower model selected was:

$$\%P = a + b \log E + c \log E \, (\%R)^{1.56}, \qquad (1\text{-}2)$$

where a = 173.90
b = -22.507
c = -0.044802
log E = common logarithm of rpm.

The standard error of the estimate for the model is 3.62, in units of percent power, and the square of the multiple correlation coefficient, or coefficient of determination, is 0.987.

Two constraints are applied to the computation of %P with the model. These are:

1. When $\%P < 0$, the power is identified as motoring and no magnitude is assigned.

2. When $\%P > 100$, %P is set equal to 100.

The horsepower model developed for the Cummins diesel engines was based on engine-dynamometer data for 8 engine types, representing a total of 284 points, which were supplied to the EPA by the Cummins Engine Company. Those data were supplemented by no-load fuel pressures derived by the EPA. Engine horsepower was again normalized to the maximum power at each rpm value and the fuel (rail) pressure was normalized to the maximum fuel pressure at each rpm. It was determined in the regression analysis that percent power depended only on the normalized fuel pressure, %FP, and was independent of rpm. The horsepower model developed thus had the following simple form:

$$\%P = 37.475\ (\%FP)^{0.33} - 70.283. \qquad (1\text{-}3)$$

The standard error of the estimate for the model is 3.64, in units of percent power, and the coefficient of determination is 0.987.

### 1.3.3 Statistical Analyses

The set of power tapes is the CAPE-21 data base in its final processed form. A statistical analysis of those tapes was first conducted for each vehicle in the sample. The individual bus data were then combined within each city to yield a New York bus sample and a Los Angeles bus sample. The individual truck data were combined to create 12 categories: 2 fuel types x 3 vehicle configurations x 2 cities. Within each category the data were broken down by road type into freeway (F) data, nonfreeway (NF) data, and combined (C) road-type data. Therefore, statistics were obtained for 36 categories of truck data and 6 categories of bus data. A category analysis was then performed to determine which categories could be further combined, thus reducing the number of vehicle categories for which distinct cycles must be developed.

It was immediately clear that the freeway and nonfreeway statistics were distinctly different, as were those between cities and between fuel types. In general, however, the statistics by vehicle configuration were not too dissimilar. Therefore, based on a combination of the statistical analysis and the exercise of engineering judgement, the EPA selected the categories defined in

the following table as the basis for the generation of engine cycles (designated by EC) and chassis cycles (designated by CC):

| | F | NF | C |
|---|---|---|---|
| LA Gasoline | EC | EC | |
| LA Diesel | EC | EC | |
| LA Gas & Dsl | CC | CC | |
| NY Gasoline | EC | EC | |
| NY Diesel | EC | EC | |
| NY Gas & Dsl | CC | CC | |
| LA Buses | | | EC, CC |
| NY Buses | | | EC, CC |

The number of data categories for which cycles had to be developed was thus reduced considerably. A further reduction in the number of engine cycles was effected by the stipulation that for trucks there would be one gas cycle and one diesel cycle, each to consist of cycle segments selected from the above categories. Engine-cycle segments with nominal 5-minute durations were generated for each category. Similarly, chassis-cycle segments of the same duration were generated for trucks. Cycles generated for buses had nominal durations of 5, 10, 20, 30, and 60 minutes.

One remaining question with respect to the composite gas and diesel cycles concerned heavy-duty vehicle operation when cold. An analysis of cold/hot operation was conducted to determine if there were need for a unique cold-operation segment in each of the composite cycles to be configured by the EPA. The results of the analysis indicated that the difference between cold and hot heavy-duty vehicle operation was not very significant. It was found, however, that the initial idle following a cold start was longer than normal. It was thus concluded that a longer idle at the start of the cycle was the sole requirement for the cold-start portion of an emission test.

The 5-minute cycle segments were computer-generated with a Monte Carlo model, utilizing the CAPE-21 data base to ensure that the cycles would be representative of actual heavy-duty vehicle operation. The development of chassis cycles will be discussed first.

## 1.4 CHASSIS CYCLE DEVELOPMENT

All of the speed data for a given category can be compactly represented in an initial-speed-versus-delta-speed matrix, hereafter shortened to "speed matrix". The speed matrix for truck-cycle purposes is a 61 x 9 matrix, representing initial speeds ranging from 0 to 60 mph in 1-mph increments and delta speeds ranging from -4 mph/0.864 seconds to +4 mph/0.864 seconds in increments of 1 mph/0.864 seconds. (It will be recalled that the CAPE-21 data were recorded at the rate of one record every 0.864 seconds.)

The format of the speed matrix is shown below:

| | DELTA SPEED | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| 0 | | | | | | | | | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| . | | | | | | | | | |
| INITIAL . | | | | | | | | | |
| SPEED . | | | | | | | | | |
| 58 | | | | | | | | | |
| 59 | | | | | | | | | |
| 60 | | | | | | | | | |

The speed matrix is a frequency-of-occurence matrix generated on a record-by-record basis. That is, the speed value for any given record is defined to be an initial speed. The speed for the next record is defined to be a final speed. The delta speed is the final speed minus the initial speed. The speed matrix is incremented by adding one to the contents of the matrix cell corresponding to the row defined by the initial speed and the column defined by the delta speed. The final speed then becomes the initial speed for the computation of a new delta speed from the speed for the next record and the matrix is again incremented. The process continues until all of the speed data for each truck in a given category have been treated to yield the freeway and nonfreeway matrices for the category.

Now consider any row of the speed matrix. That row is defined by an initial speed and the entries in the nine cells of that row represent the number of times that the trucks in the category changed speed by each of the indicated delta speeds. Therefore, if the entries in the nine cells are summed, and if each entry is then divided by the row sum, then each cell entry is the empirical conditional transition probability of the indicated delta speed given the initial speed.

The speed matrix (SM) is transformed into an intermediate matrix (IM) by normalizing each row as described. Observing that each row is thus a density function, the intermediate matrix is transformed into what is called the transition-probability matrix (TPM) by converting the density function in each row into a distribution function. The process is illustrated with the following example of one row of each of the three matrices defined by some initial speed:

| | DELTA SPEED | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | |
| Freq. Fcn. (SM) | 1 | 2 | 4 | 18 | 40 | 23 | 10 | 2 | 0 | ($\Sigma$ = 100) |
| Dens. Fcn. (IM) | .01 | .02 | .04 | .18 | .40 | .23 | .10 | .02 | 0.00 | |
| Dist. Fcn. (TPM) | .01 | .03 | .07 | .25 | .65 | .88 | .98 | 1.00 | 1.00 | |

Chassis cycles are generated utilizing the transition-probability matrix in the following manner. Suppose, in the example above, the initial speed is 30 mph. Using a random-number generator which yields uniformly-distributed values on the unit interval, suppose a random number with the value 0.37 is generated. Since that value is greater than 0.25 in the above example and is less than 0.65, the selected delta speed is zero. In the cycle then, a speed of 30 mph is followed by a speed of 30 mph again. Now suppose the next random number has the value 0.92. Now the selected delta speed has the value 2, so that the next selected speed in the cycle is 32 mph. Another random number is generated and the distribution function for the row corresponding to 32 mph is then used to generate the next speed in the cycle.

Cycle speeds are thus selected in accordance with their frequencies of occurrence in the CAPE-21 data base. The process continues until a desired minimum cycle duration is reached. If the cycle speed is zero at that time, the process continues until a nonzero speed is generated, whereupon the cycle is ended at the last zero speed. Otherwise, a deceleration is forced until the cycle speed reaches zero. Generation of the cycle then continues until a nonzero speed is selected or until a maximum desired cycle duration is reached. Cycle generation is thus constrained to start and finish at zero speed. Since the cycle can be driven sequentially through all speeds, each cycle is closed.

## 1.5 STATISTICAL FILTER

Because the cycles are generated with a Monte Carlo model, any given cycle may be very unrepresentative of the input data. Therefore, statistics are computed for each cycle and tested with what is called the statistical filter. As each cycle is generated, a speed matrix is created for the cycle. The speed matrix for the cycle is then compared with the input speed matrix to determine if the cycle can be said to be representative. The statistical test used for the matrix comparison is the Kolmogorov-Smirnov (K-S) test.

The K-S one-sample test, a nonparametric or distribution-free test, is concerned with the degree of agreement between the distribution function for a set of sample values (observed values) and a specified theoretical distribution function. It determines whether the sample values can reasonably be considered to have come from a population with the specified distribution. The test consists of determining the absolute value of the maximum difference between the sample and theoretical distribution functions.

A distribution function created from the input speed matrix was specified to be the theoretical (or population) distribution. A distribution function created from each cycle matrix played the role of the sample distribution. The distribution function for a speed matrix was generated by first dividing each cell frequency in the matrix by the total matrix frequency and then getting a running sum of the normalized values from top to bottom (because the computer is more efficient that way) and then from left to right. This yields a vector (set) of 61 x 9 = 549 values ranging from zero to one. The input vector and the cycle vector are then compared, corresponding value by corresponding value, and the absolute value of the maximum difference is determined.

Distribution functions were obtained in this manner in four ways to yield four K-S tests. That is, K-S tests were made on the following:

1. The total speed matrix
2. The cruise submatrix (zero delta-speed column)
3. The acceleration submatrix (positive delta-speed columns)
4. The deceleration submatrix (negative delta-speed columns)

K-S tests were also performed for some cycles on the marginal distributions; i.e., on the speed and delta-speed distribution functions.

Acceptance or rejection of the null hypothesis (i.e., that the matrices are not significantly different) is referenced to a criterion level depending only on the sample size and the selected significance level. The criterion difference, $D_c$, for the K-S test is

$$D_c = \frac{z}{\sqrt{N}},$$

where z = a number depending on the selected significance level
N = the sample size.

If the significance level is 0.05, for example, then z = 1.36. To illustrate, suppose a chassis cycle has a 5-minute, or 300-second, duration. Then, the sample size (number of speeds in the cycle) would be approximately 300 divided by 0.864, or 347, since the matrix is based on the 0.864-second time between records. For a signifance level of 0.05, then, and a sample size of 347, the criterion difference is

$$D_c = \frac{1.36}{\sqrt{347}} = 0.073$$

Thus, if the maximum difference, in absolute value, between the input and cycle distribution functions were less than 0.073, the null hypothesis could not be rejected at the selected significance level.

It should be noted that the significance level here is the Type I error probability, or the probability of rejecting a cycle even though it is representative. What is important, however, is the Type II error probability, or the probability of accepting a cycle which is not representative. Unfortunately, there is no feasible way of computing Type II error probabilities for the K-S test. However, as the Type I error probability becomes larger, the Type II error probability becomes smaller. The most representative cycles, therefore, will tend to be those with the largest Type I error probabilities. That is, the Type II error probabilities will be small, yielding high confidence that the cycles are representative. It should be noted that this is different from the usual case where one desires a small Type I error probability.

In addition to the K-S tests, however, the chassis cycles were tested to ensure that other cycle statistics were close to those for the input data. These included: average speed, percent idle time, percent time at cruise, percent time at acceleration, and percent time at deceleration. A typical computer run would generate 10,000 chassis cycles of the desired duration, and each cycle would be tested for representativeness. The statistics for only

those cycles passing through the statistical filter were printed. A selection of at least three candidate cycles was made for each category and the cycles submitted to the EPA for further analysis.

## 1.6 ENGINE CYCLE DEVELOPMENT

The Monte Carlo generation of engine cycles is accomplished with a random-number generator operating on a transition-probability matrix with the same logic described above. The input matrix, of course, is based on the engine parameters. The engine matrix is a matrix of initial rpm and power versus final rpm and power. As discussed earlier, rpm and power are in units of percent on the power tape. Percent rpm, %E, ranged from -22 percent to 150 percent, in increments of 2 percent, for a total of 87 classes. Percent power, %P, ranged from motoring (any value less than zero) to 100 percent, in increments of 10 percent, for a total of 12 classes. Each rpm class is associated with 12 power classes, so that the engine matrix has 87 x 12 = 1,044 rows and the same number of columns. The number of cells in the matrix is thus 1,044 x 1,044 = 1,089,936.

The engine-matrix format is shown in Figure 2. Just as in the case of the simpler speed matrix, each row of the engine matrix is converted into a distribution function to yield a transition-probability matrix. Each cycle starts at %E = 0 and %P = 0; i.e., at the idle condition. A random number is generated which then selects the next combination of rpm and power. The process continues to a minimum cycle duration time. If %P = %E = 0 at that time, the process continues until a nonidle state is selected; the cycle then terminates at the last idle point. Otherwise, a "deceleration" is forced until both engine parameters have returned to zero. As the cycle is generated, a corresponding cycle matrix is created for comparison with the input engine matrix. Computed statistics include: K-S tests on the total matrix, on the diagonal ("cruise") submatrix, the submatrix above the diagonal, and the submatrix below the diagonal; average %E and %P; percent motoring; percent idle rpm; percent zero power; and percent cruise, acceleration, and deceleration for each of %E and %P. (The distribution functions for K-S testing were created on a row-by-row basis.)

The statistics are tested in the statistical filter and printed for those cycles passing through the filter. At least three candidate engine cycles of approximately a 5-minute duration were selected in each category for submission to the EPA for further engineering analysis. The EPA will create a composite engine cycle for gasoline trucks by selecting candidate-cycle segments from the city/road type categories and combining them into a single cycle. A composite diesel-engine cycle will be created in the same way.

Examples of chassis cycles for trucks are shown in Figures 3 through 6 for the categories indicated. Figures 7 through 14 show examples of engine cycles for trucks for the indicated categories. Examples of chassis and engine cycles for buses are shown in Figures 15 through 18. The cycles in those figures have been "smoothed"; i.e., the interval between points is 1 second instead of the original 0.864 seconds. (Motoring values of %P are plotted at -10 percent and no motoring magnitude is implied.) Appendix A shows the same cycles plotted with the 0.864-second interval for comparison. The statistics and schedules for each plotted engine cycle are given in Appendix B. The statistics and schedules for the plotted chassis cycles are given in Appendix C.

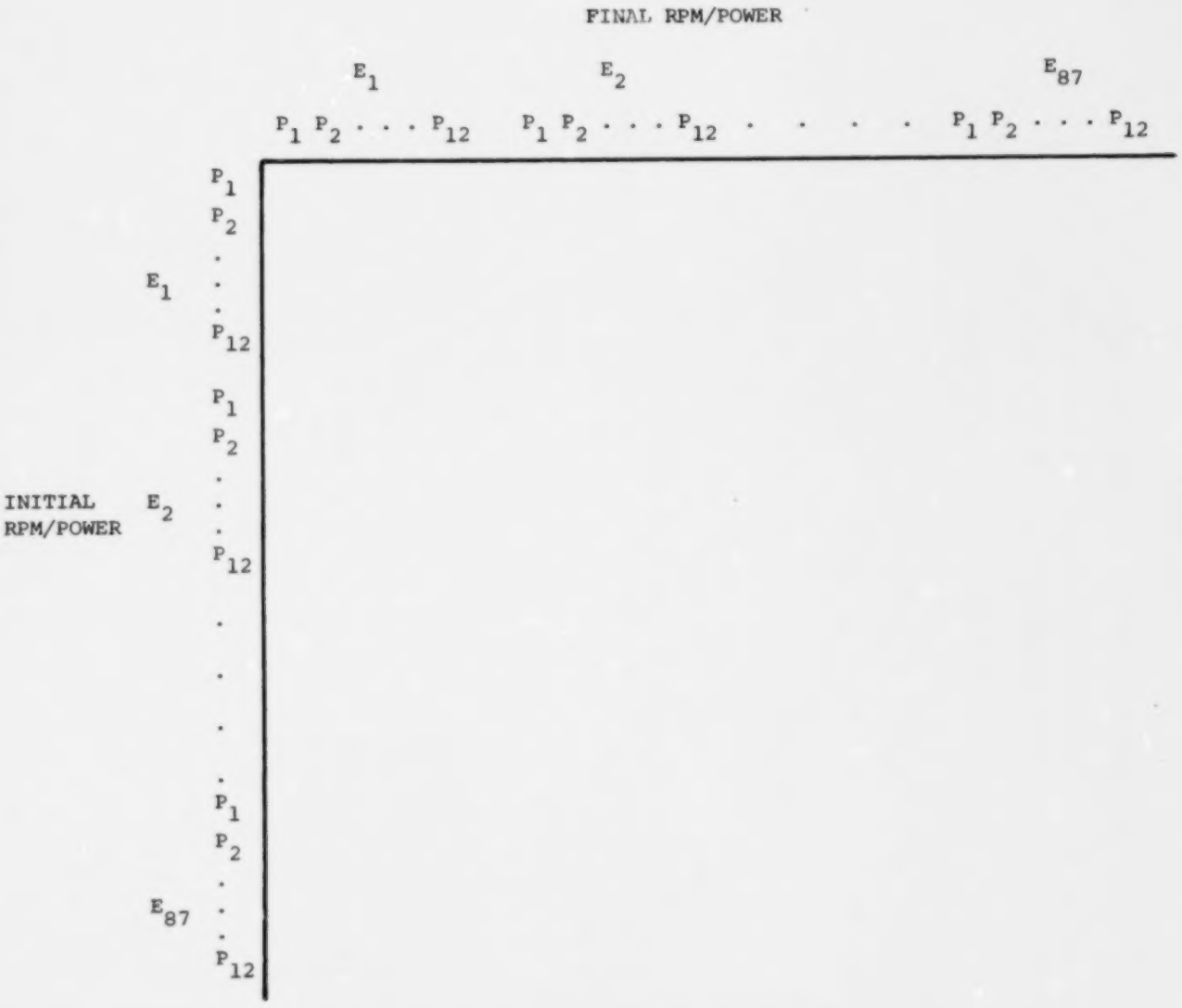



Figure 2. ENGINE-MATRIX FORMAT

FIGURE 3.

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 1539135071

DATA BASE: LA GAS + DIESEL
FREEWAY

AVERAGE SPEED = 44.79 MPH
DURATION = 4.46 MIN
DISTANCE = 3.33 MILES
INTERVAL = 1.00 SEC

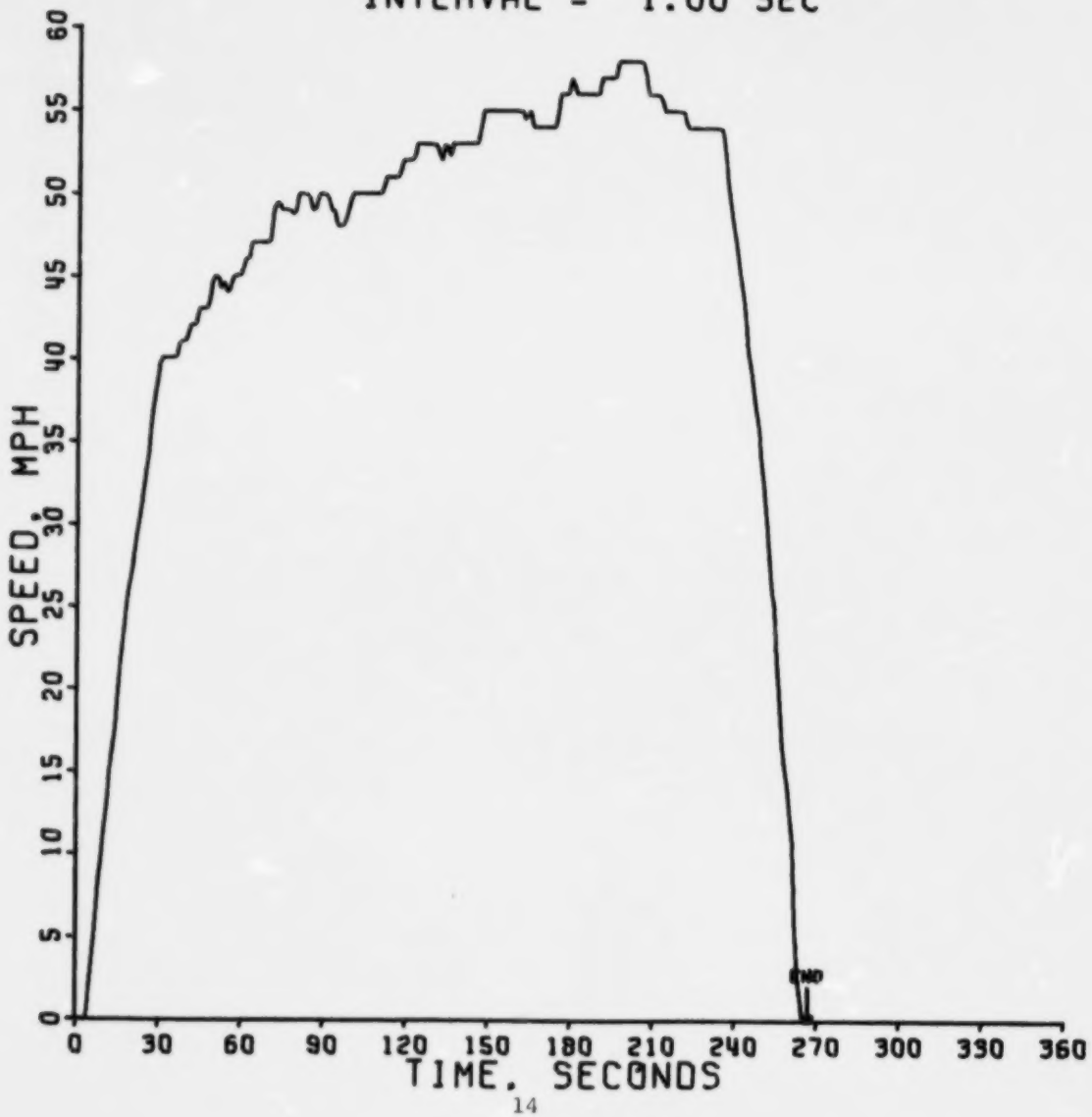


FIGURE 4.

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2106204593

DATA BASE: LA GAS + DIESEL
NONFREEWAY

AVERAGE SPEED = 14.55 MPH
DURATION = 4.75 MIN
DISTANCE = 1.15 MILES
INTERVAL = 1.00 SEC

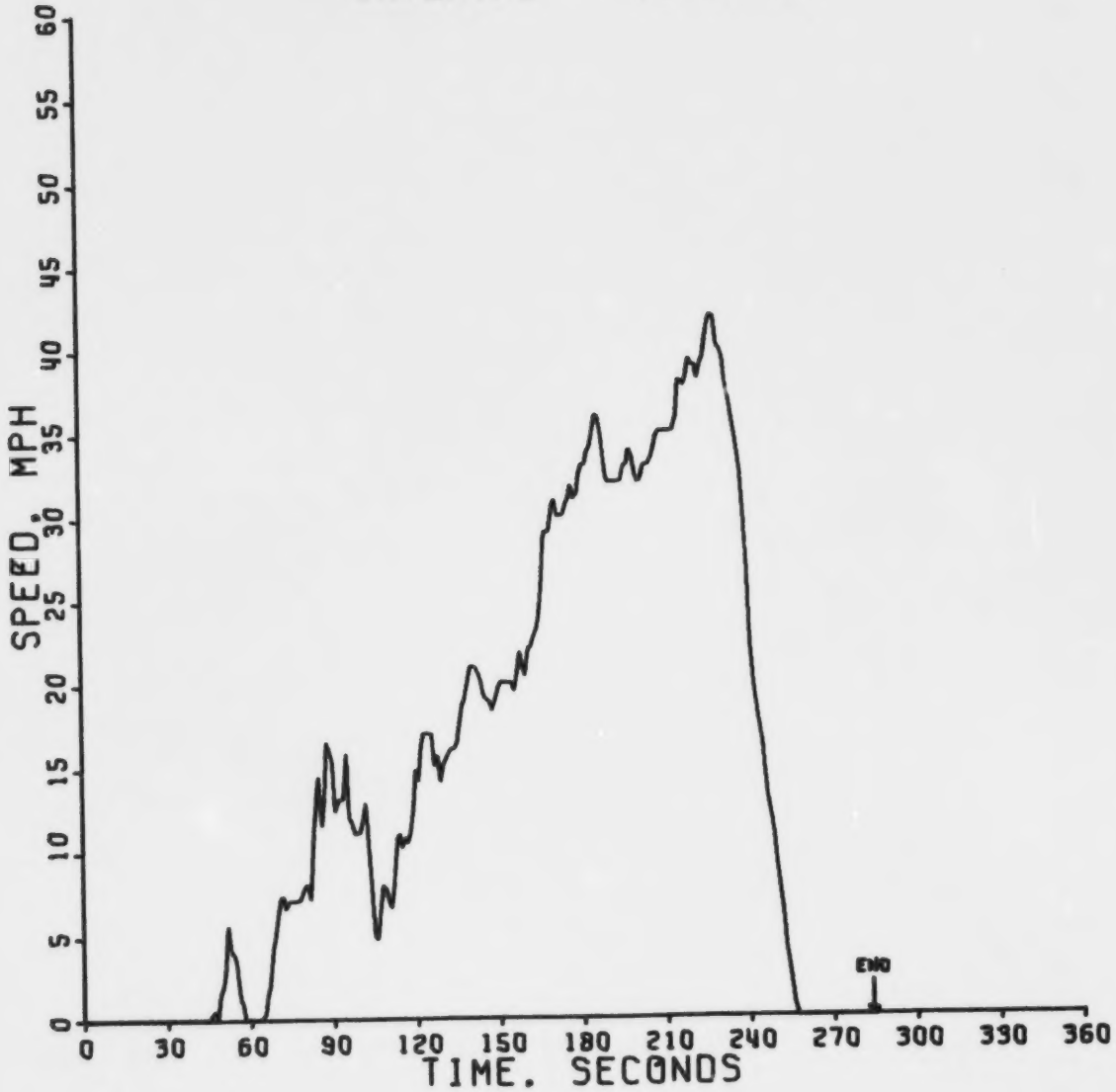


FIGURE 5.

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2037082365

DATA BASE: NY GAS + DIESEL
FREEWAY

AVERAGE SPEED = 26.91 MPH
DURATION = 4.67 MIN
DISTANCE = 2.09 MILES
INTERVAL = 1.00 SEC

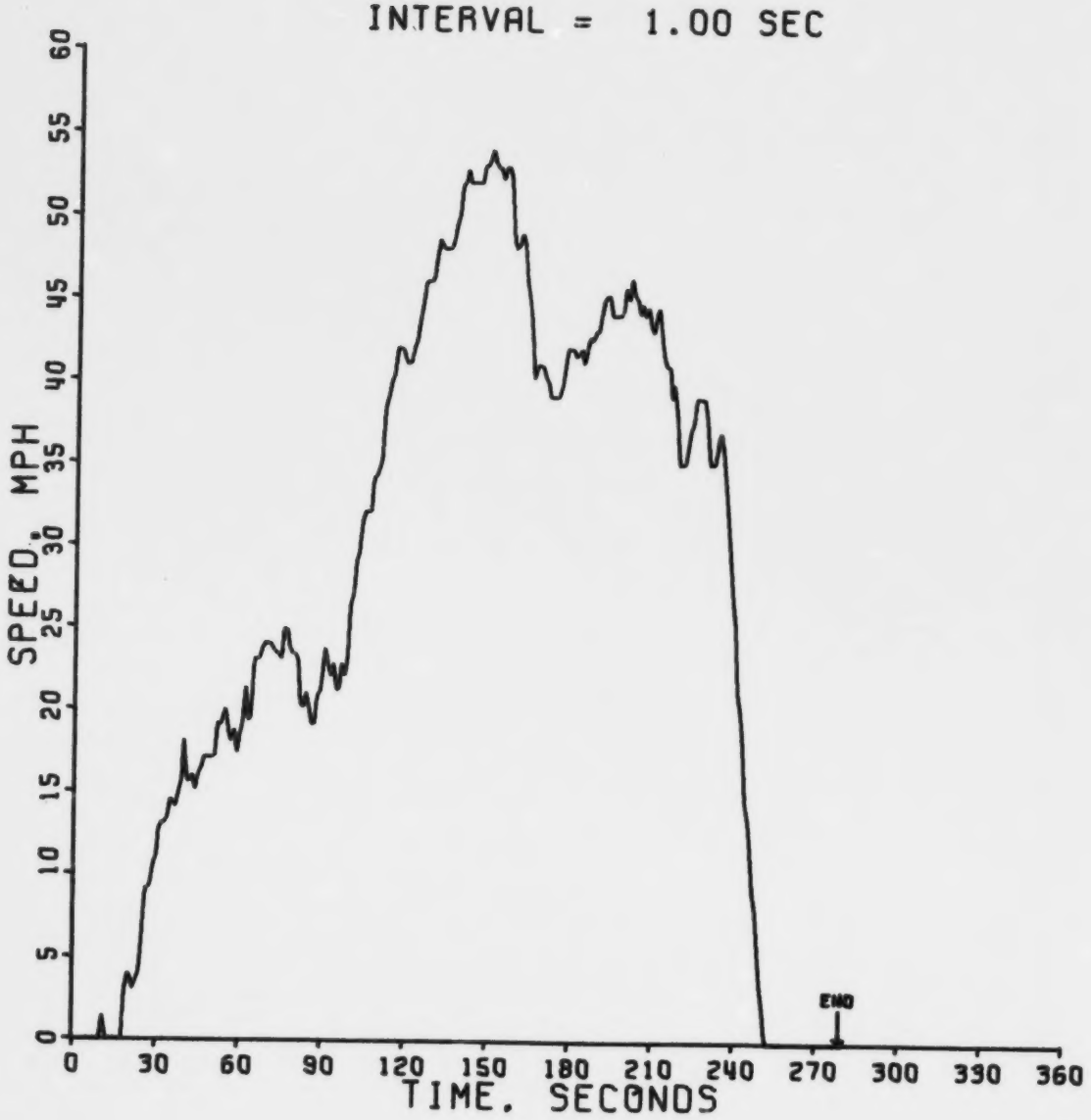


FIGURE 6.

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2120127413

DATA BASE: NY GAS + DIESEL
NONFREEWAY

AVERAGE SPEED = 7.57
DURATION = 4.23 MIN
DISTANCE = 0.53 MILES
INTERVAL = 1.00 SEC

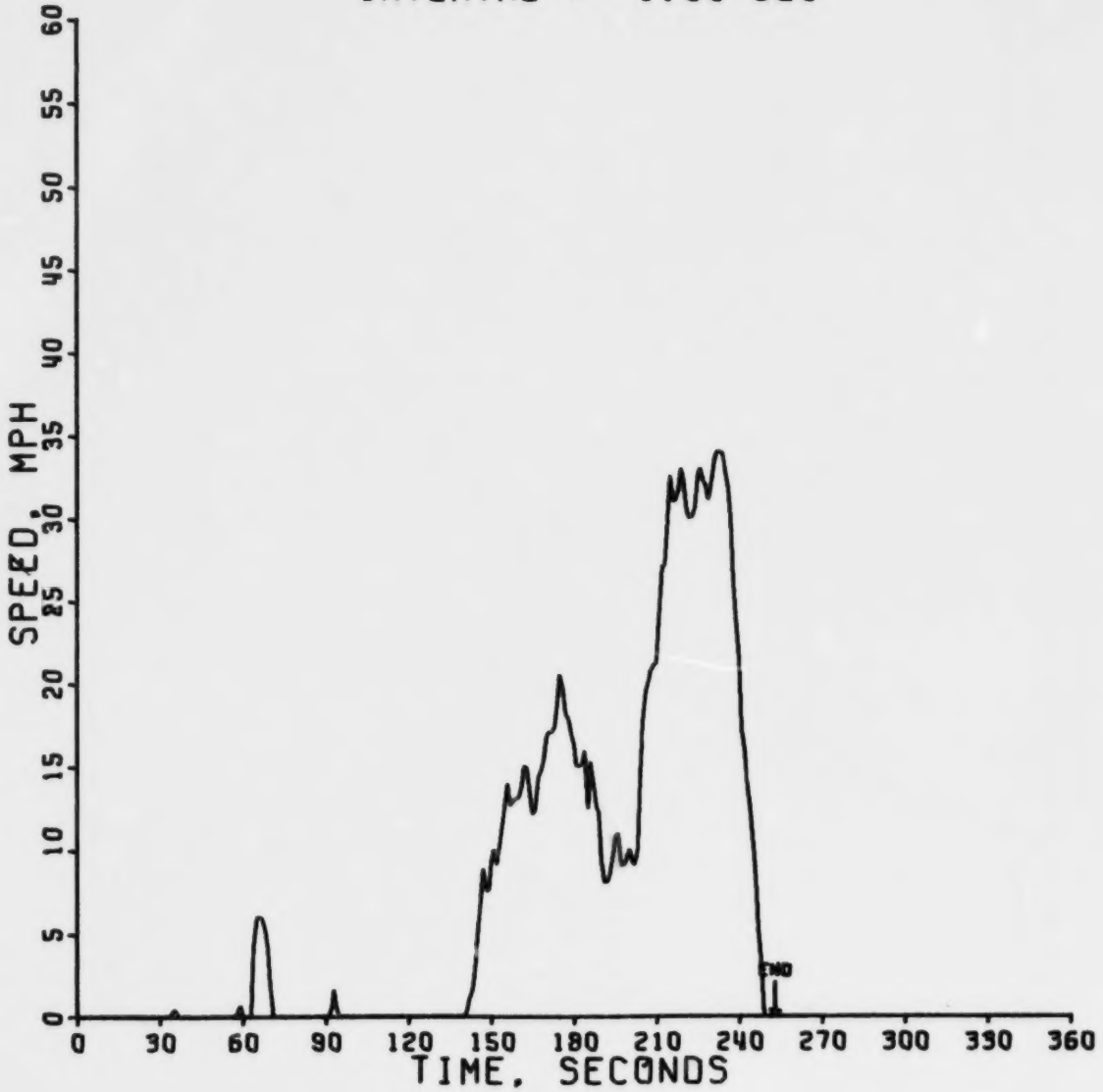
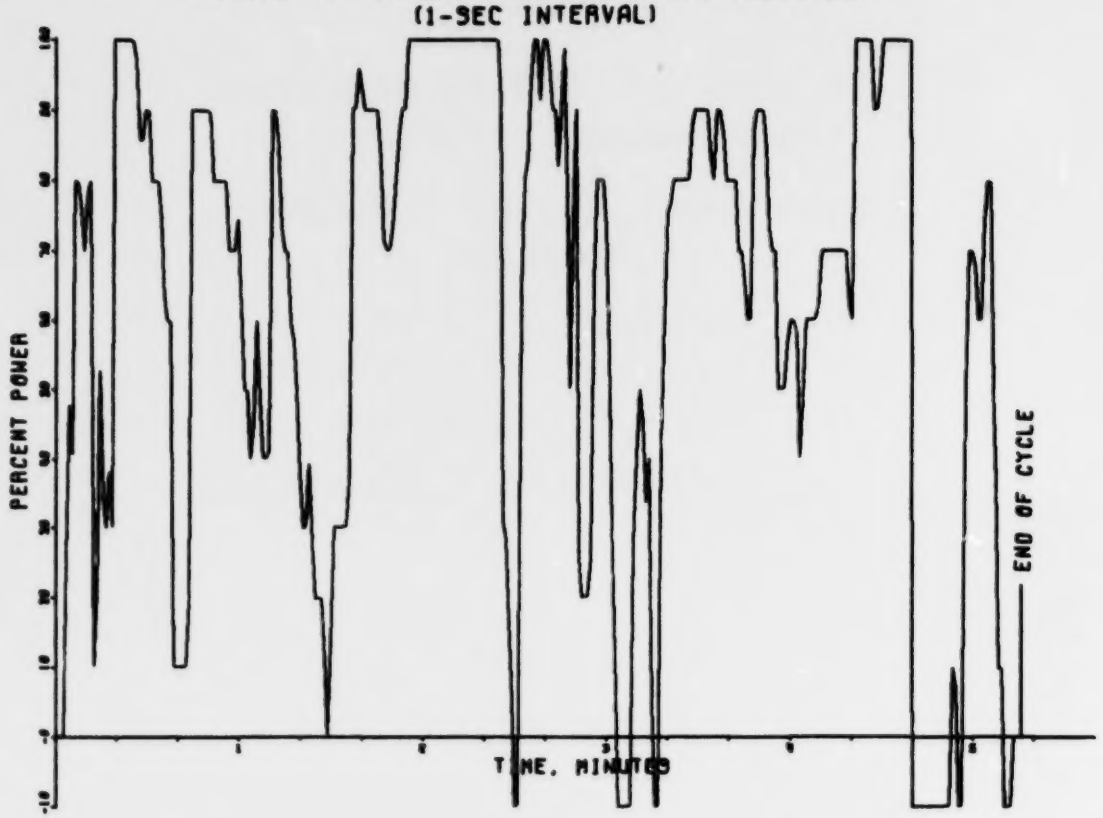


FIGURE 7. LA GAS FREEWAY: CYCLE 296644805
(1-SEC INTERVAL)



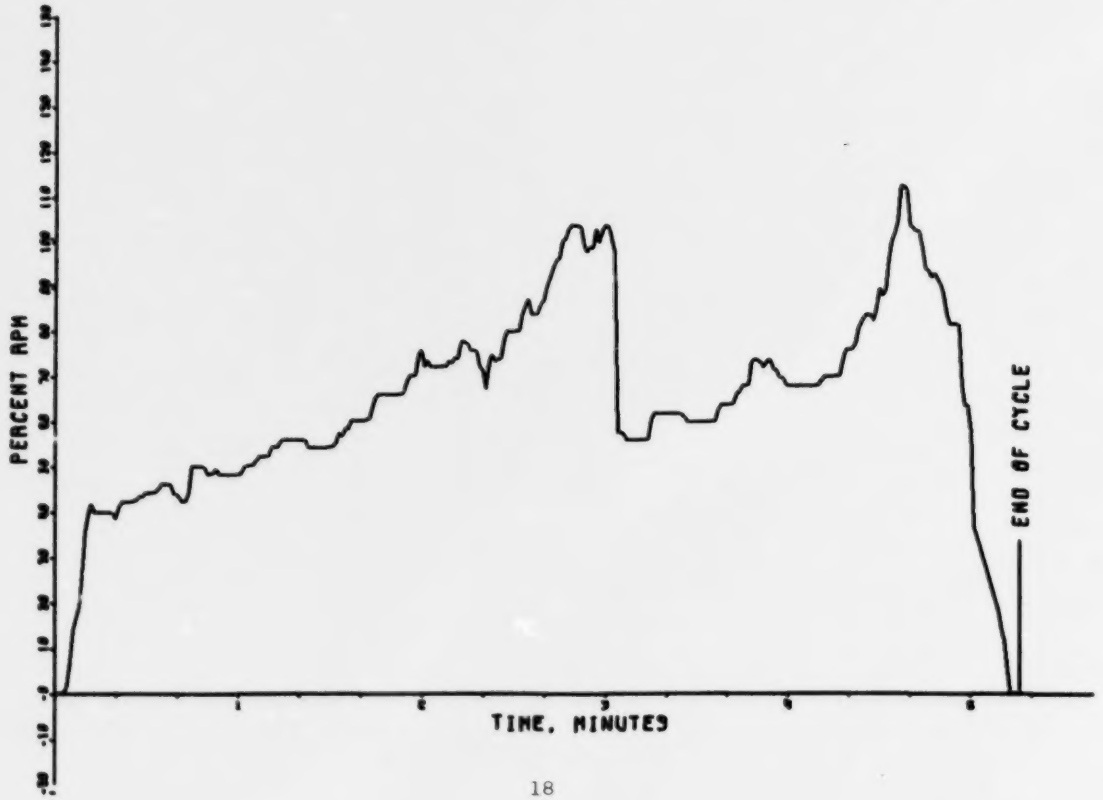
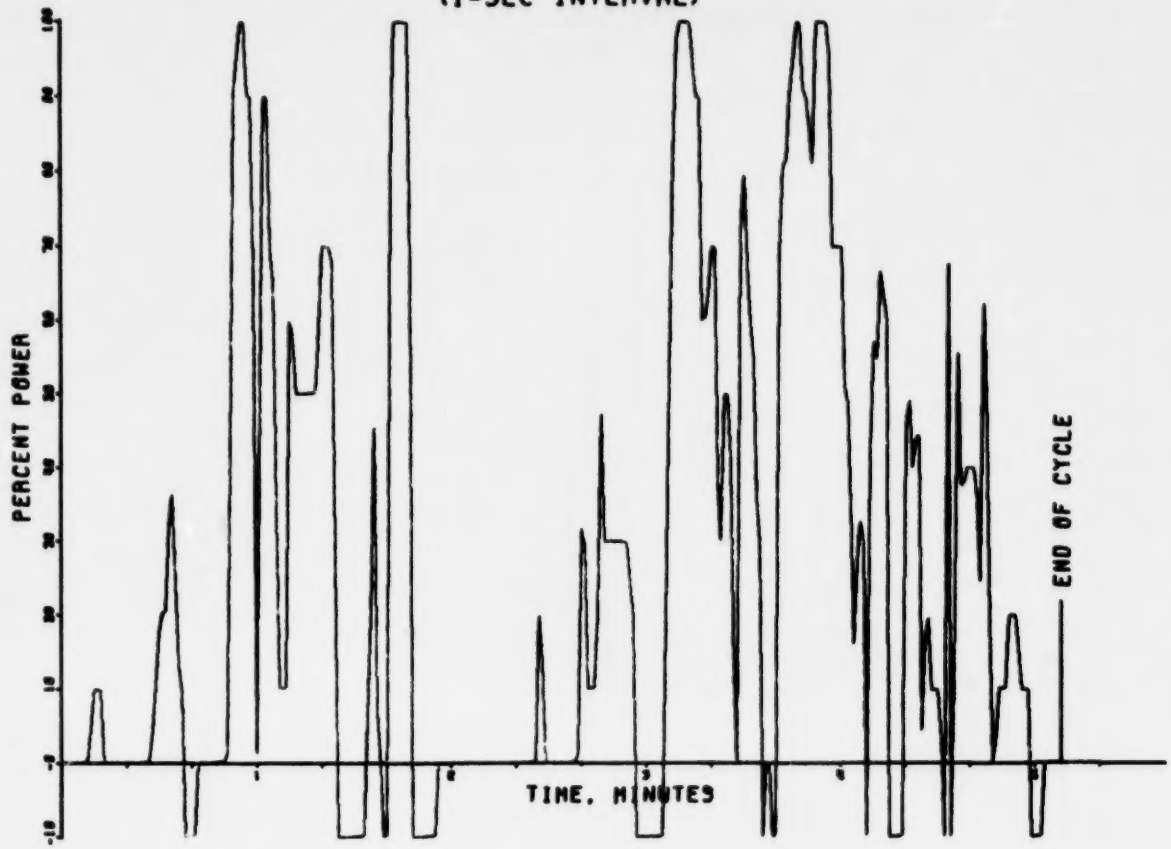



FIGURE 8. LA GAS NONFREEWAY: CYCLE 2038877989
(1-SEC INTERVAL)



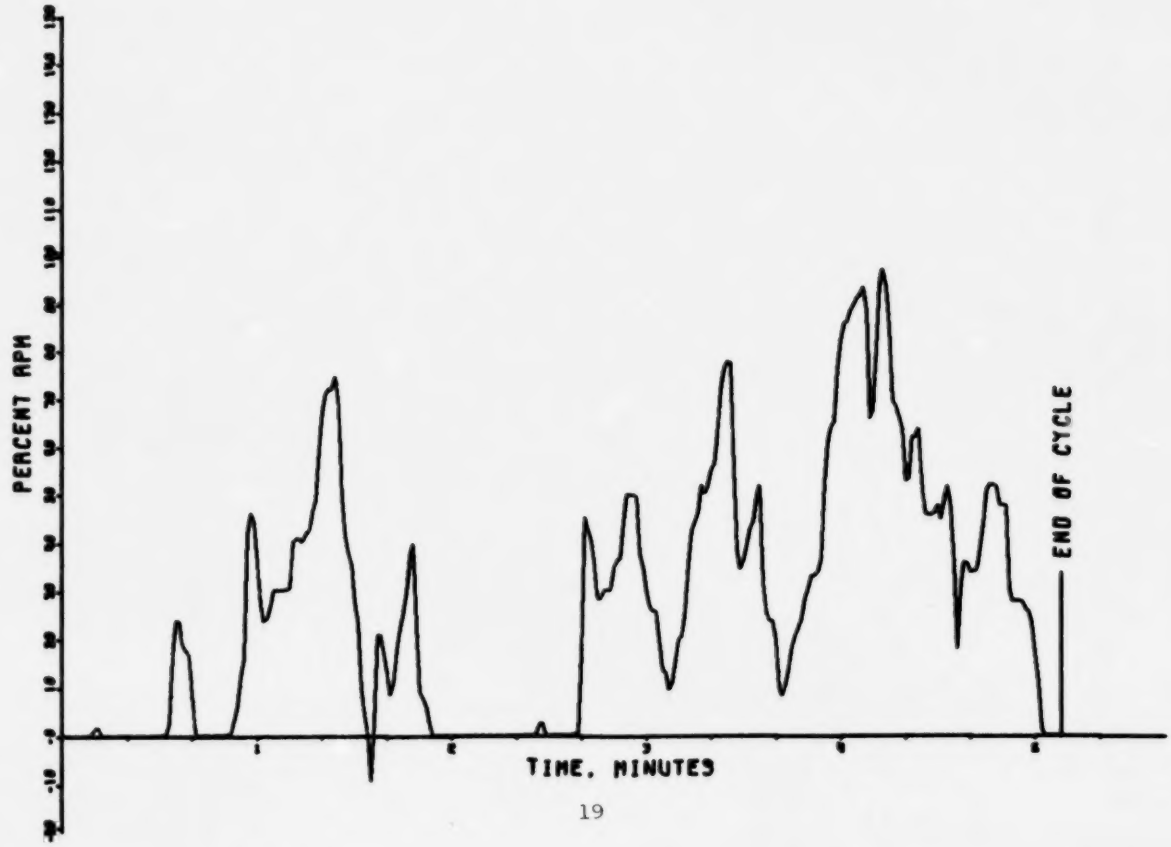



FIGURE 9. LA DSL FREEWAY: CYCLE 1599345415
(1-SEC INTERVAL)

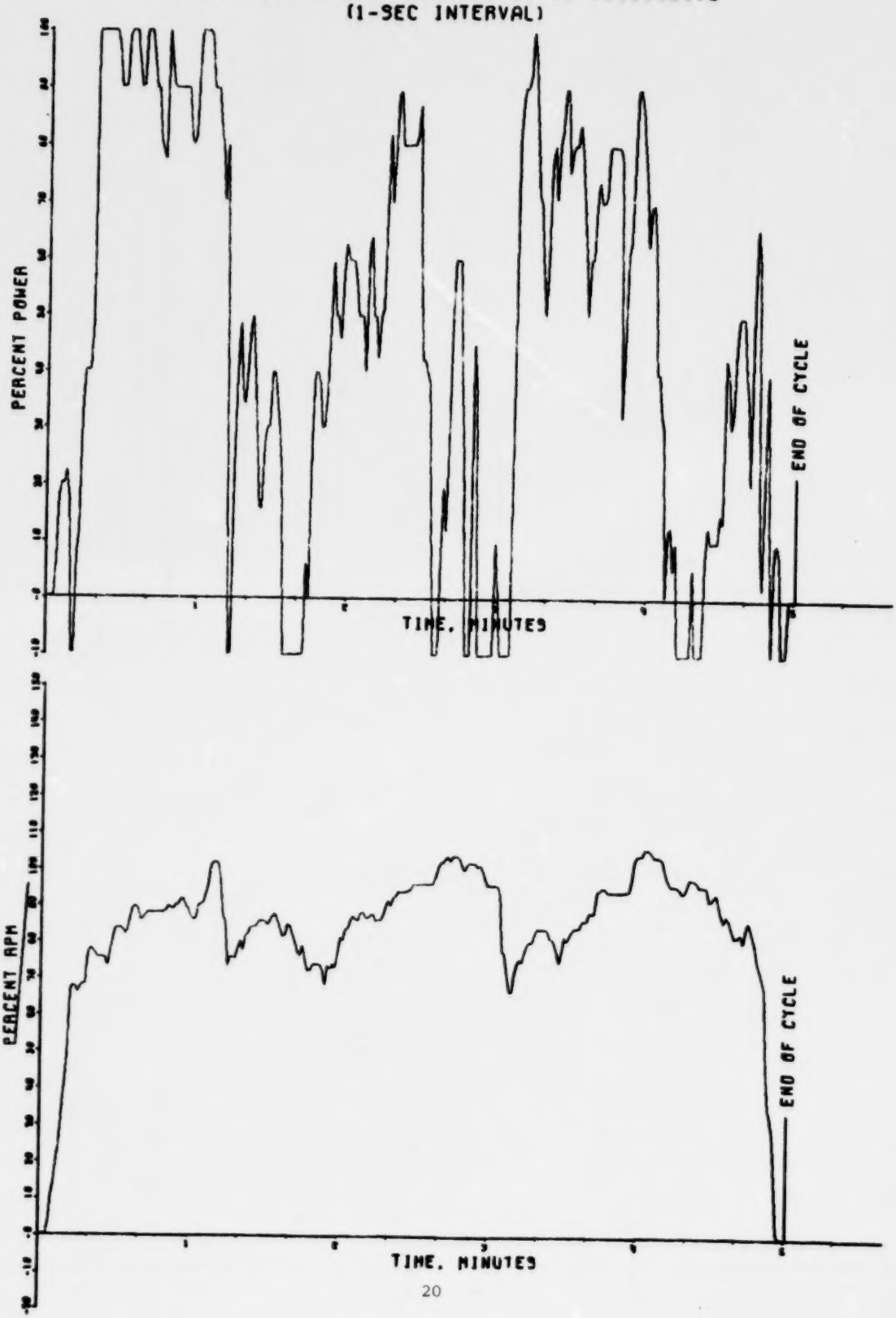
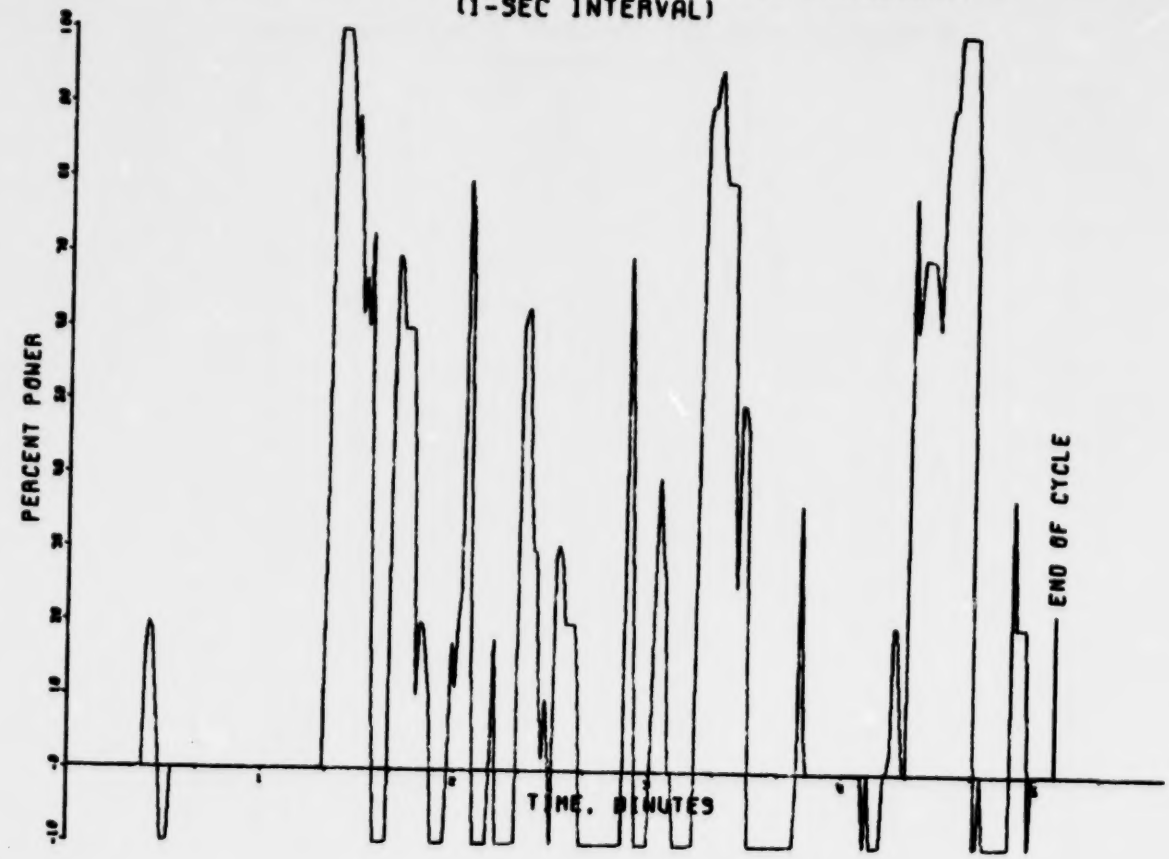


FIGURE 10. LA OSL NONFREEWAY: CYCLE 2110248101
(1-SEC INTERVAL)



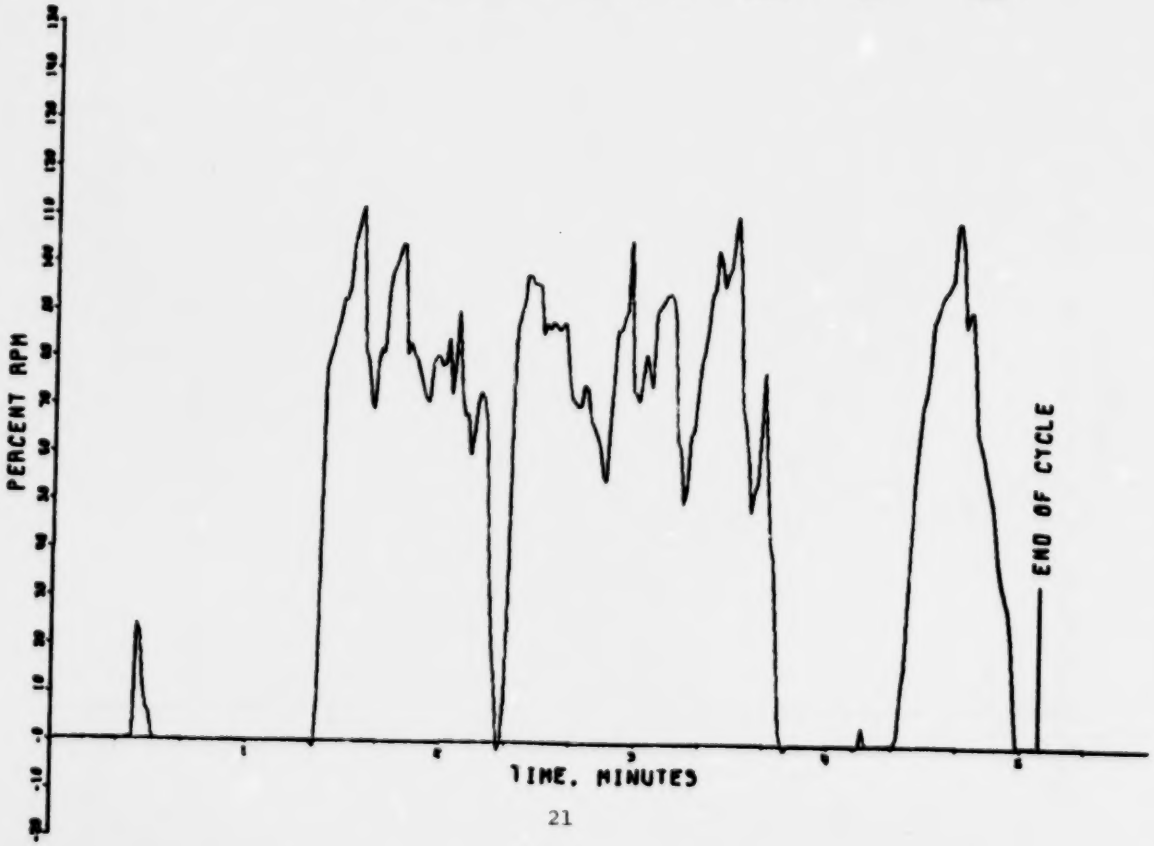
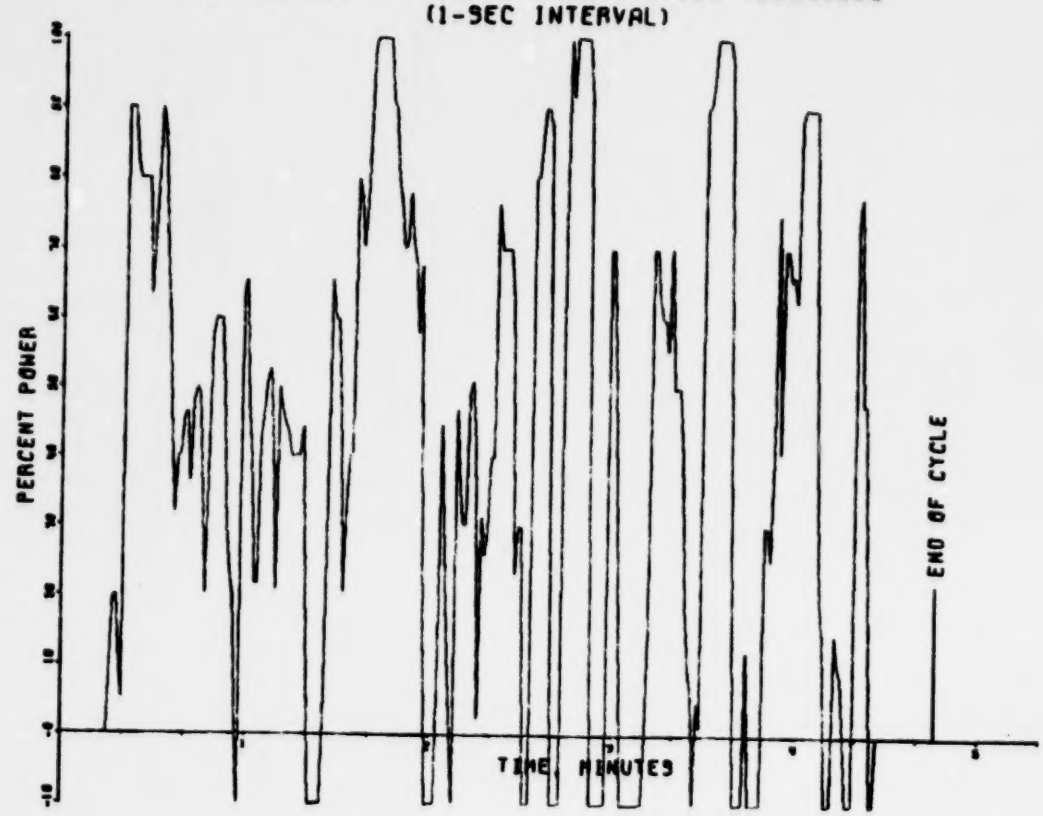



FIGURE 11. NY GAS FREEWAY: CYCLE 792043535
(1-SEC INTERVAL)



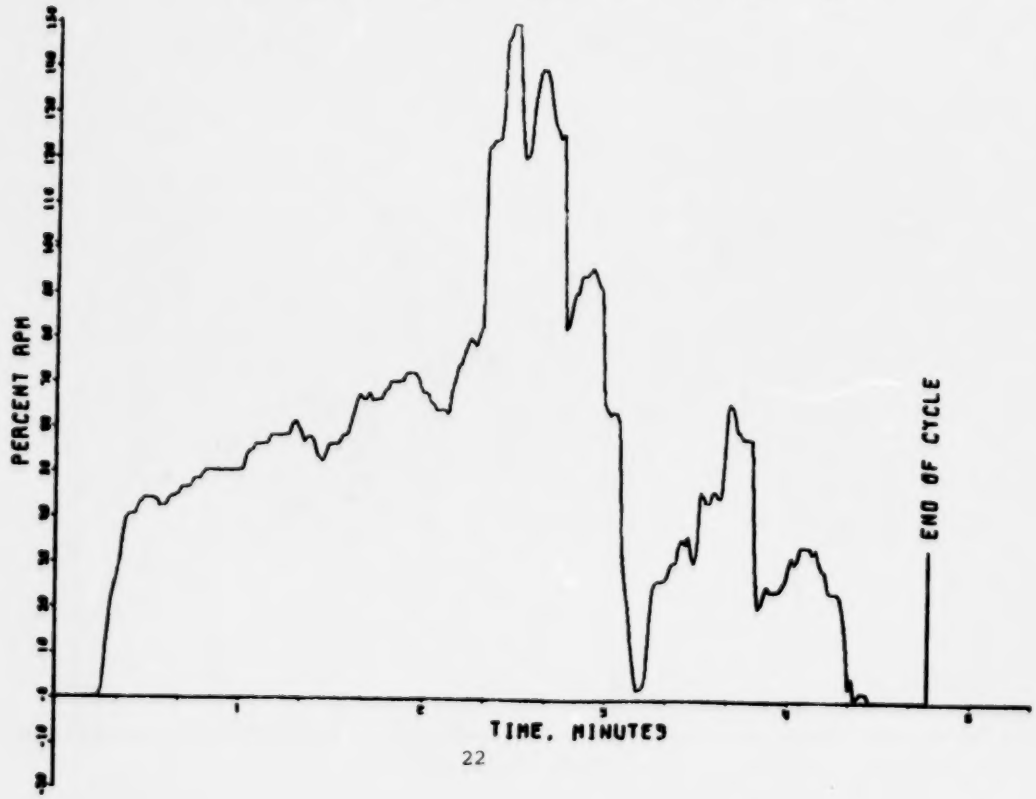
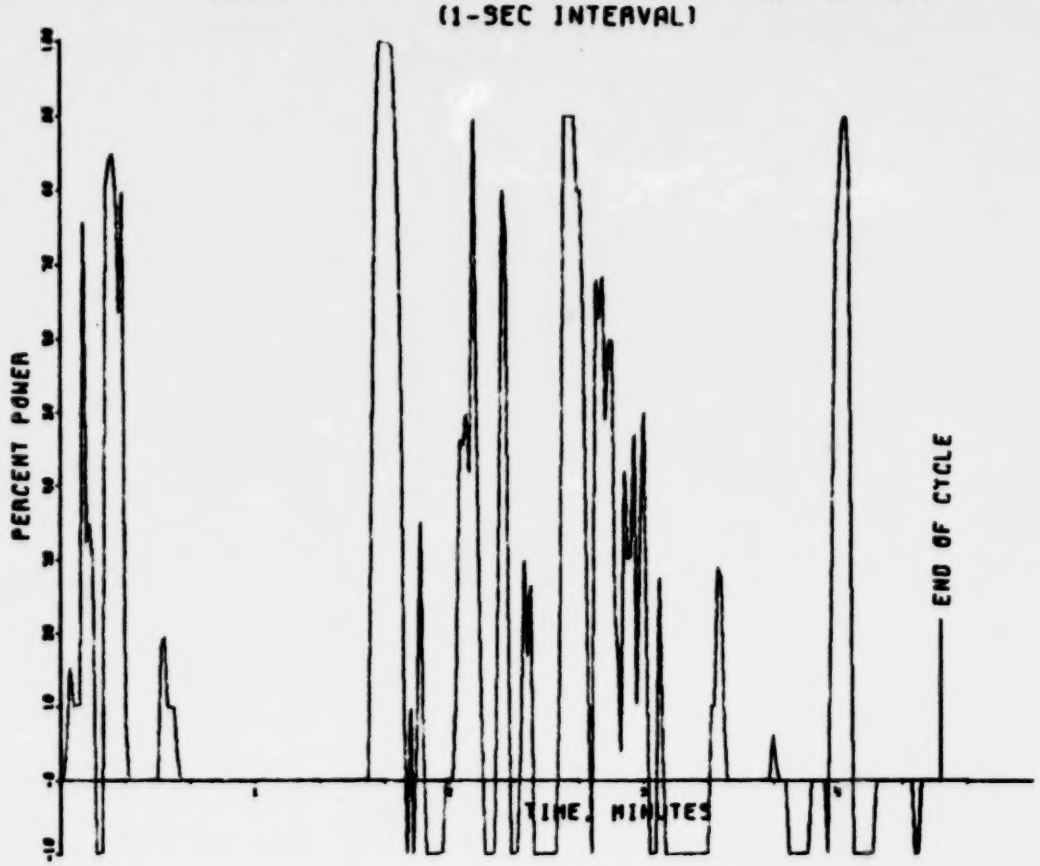



FIGURE 12. NY GAS NONFREEWAY: CYCLE 8410263
(1-SEC INTERVAL)



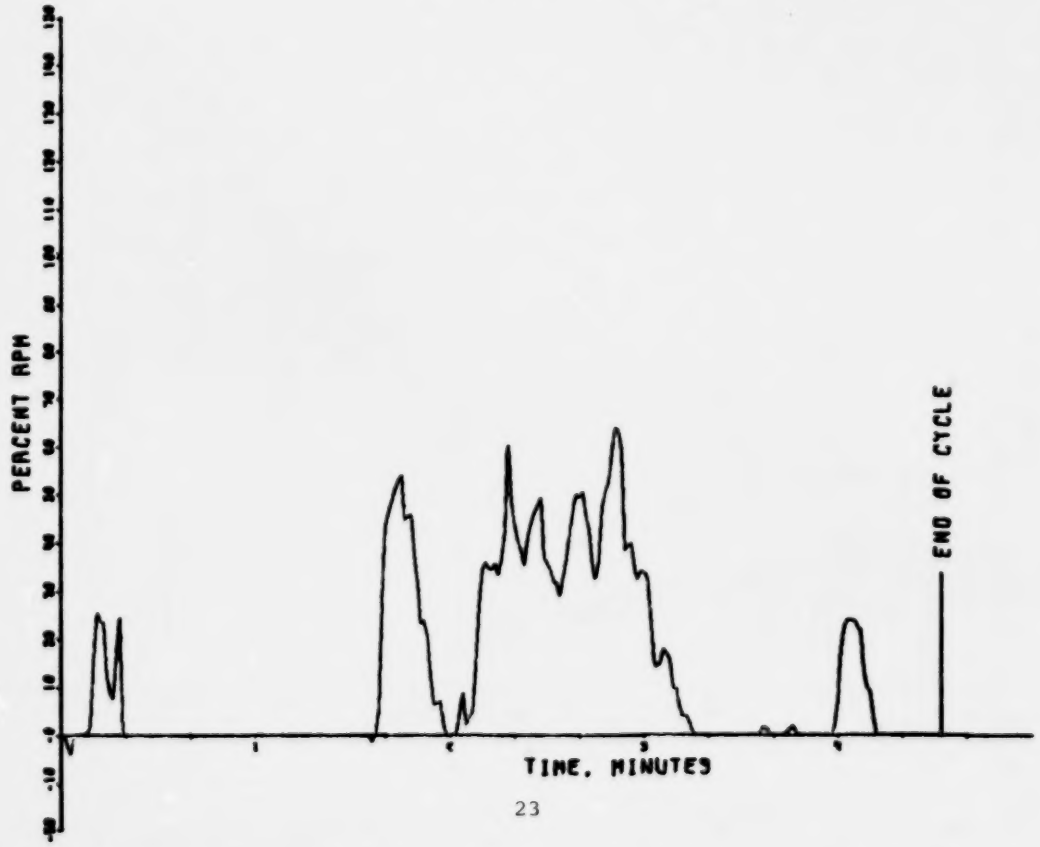



FIGURE 13. NY DSL FREEWAY: CYCLE 104099549
(1-SEC INTERVAL)

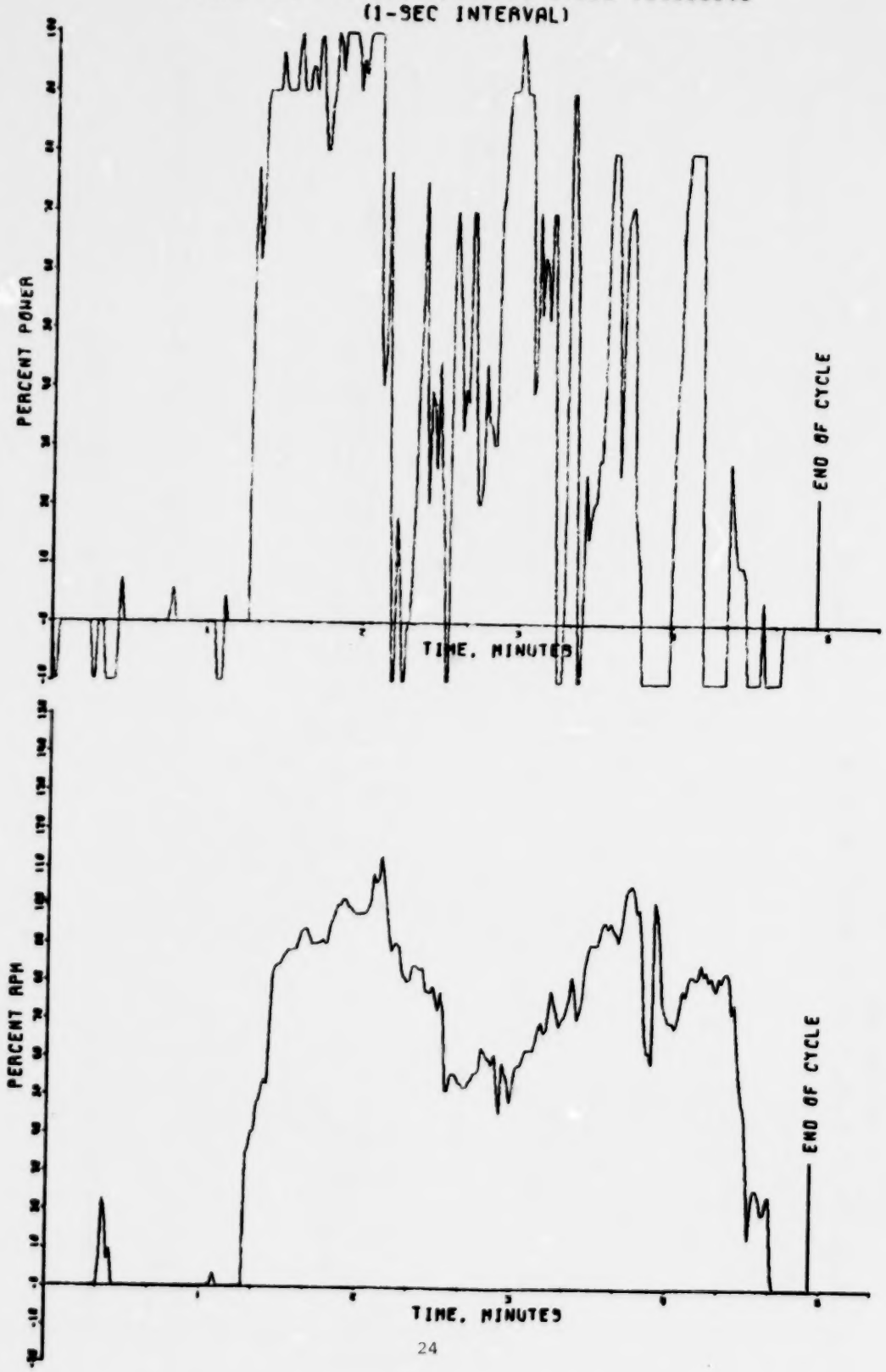
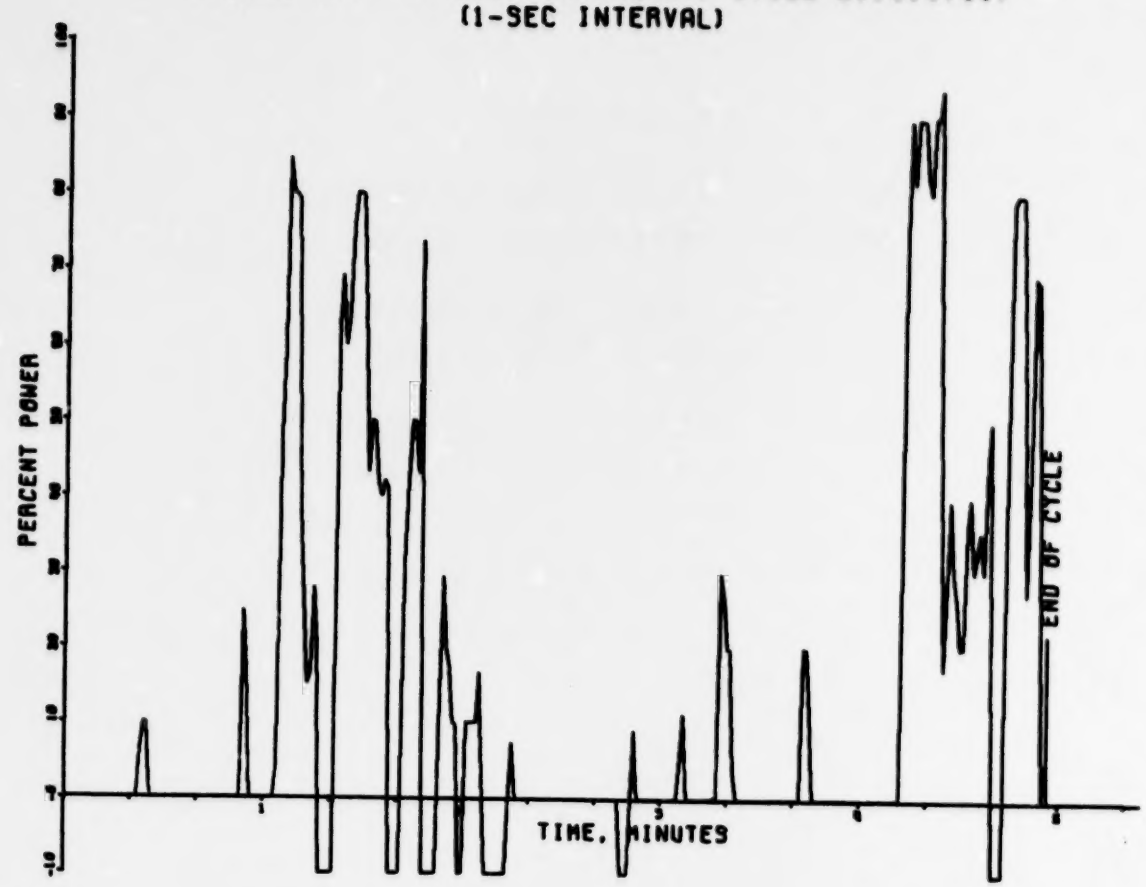


FIGURE 14. NY DSL NONFREEWAY: CYCLE 2114147447
(1-SEC INTERVAL)



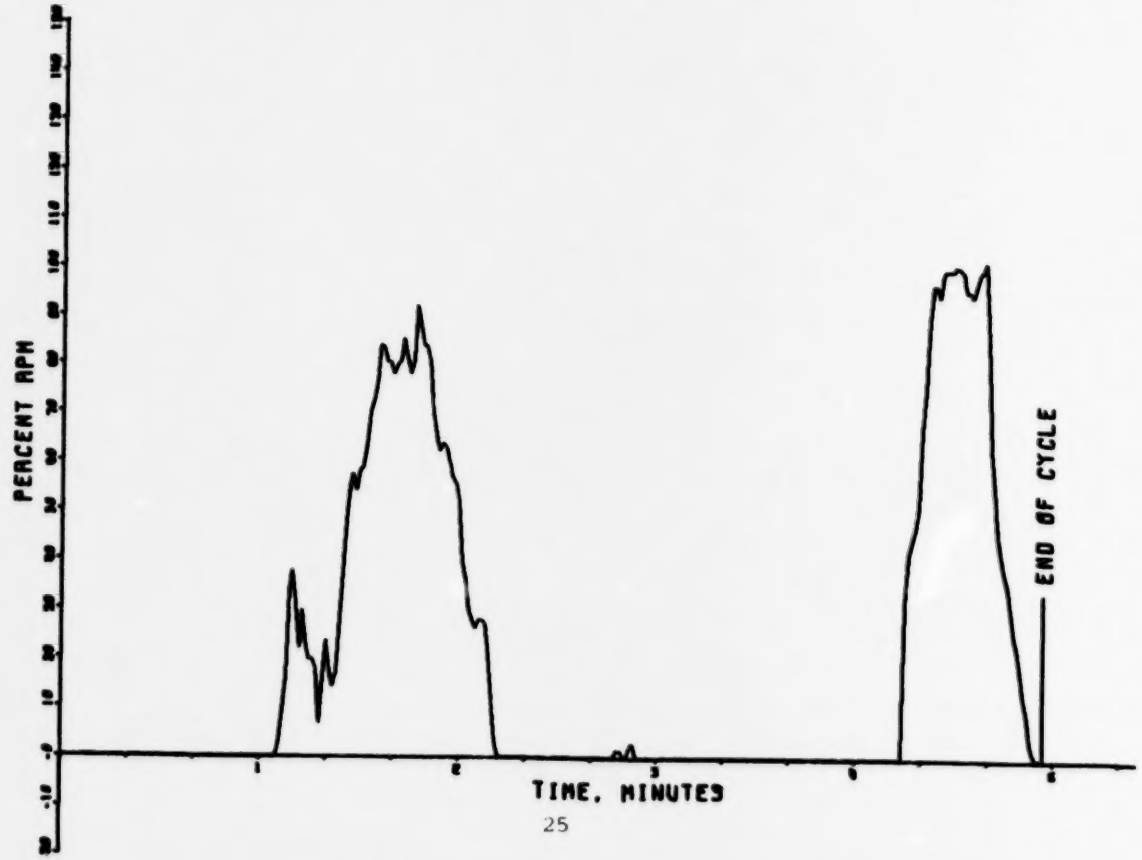



FIGURE 15.

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2041393295

DATA BASE: LA BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 20.65 MPH
DURATION = 17.71 MIN
DISTANCE = 6.10 MILES

INTERVAL = 1.00 SEC

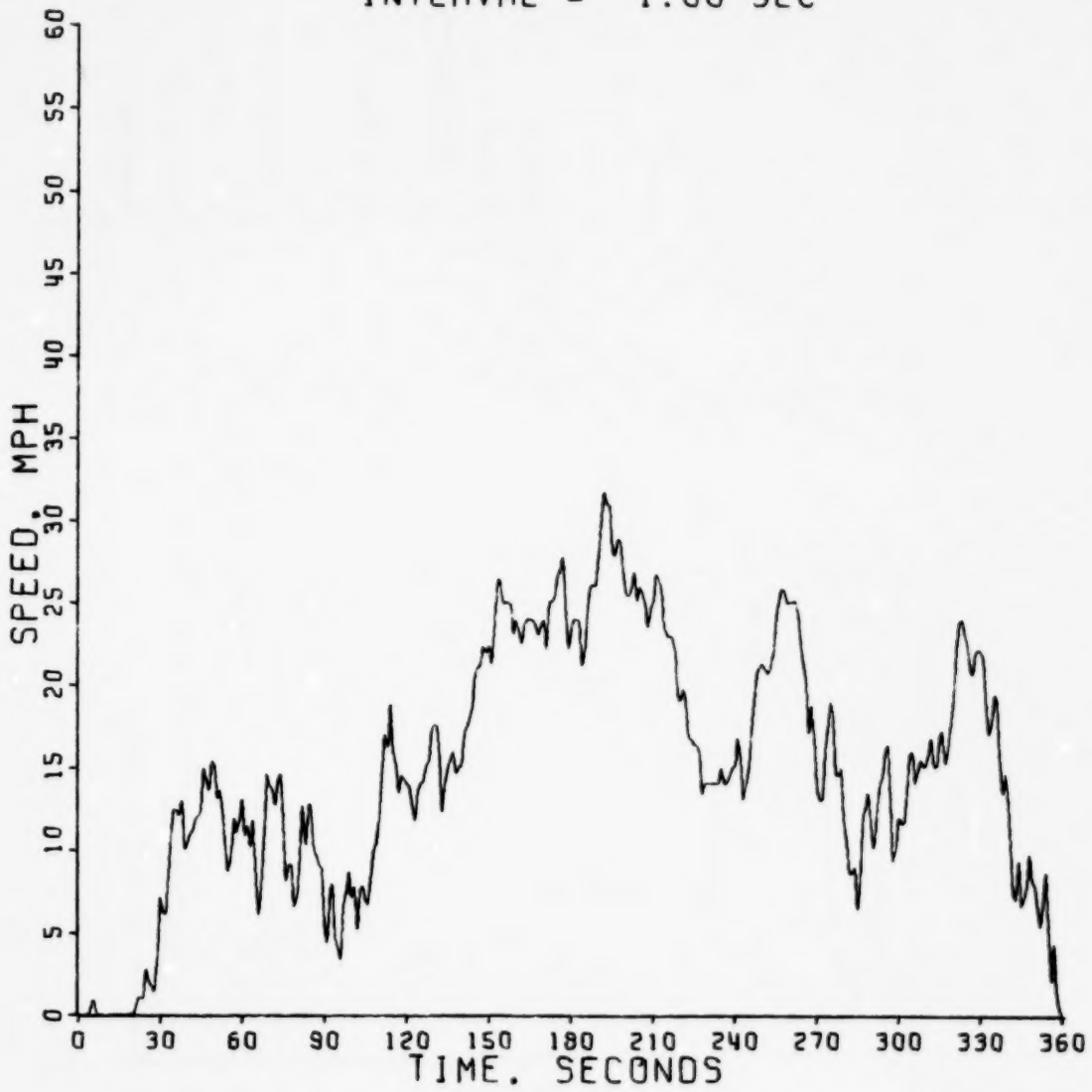


FIGURE 15. (CONTINUED)

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2041393295

DATA BASE: LA BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 20.65 MPH
DURATION = 17.71 MIN
DISTANCE = 6.10 MILES
INTERVAL = 1.00 SEC

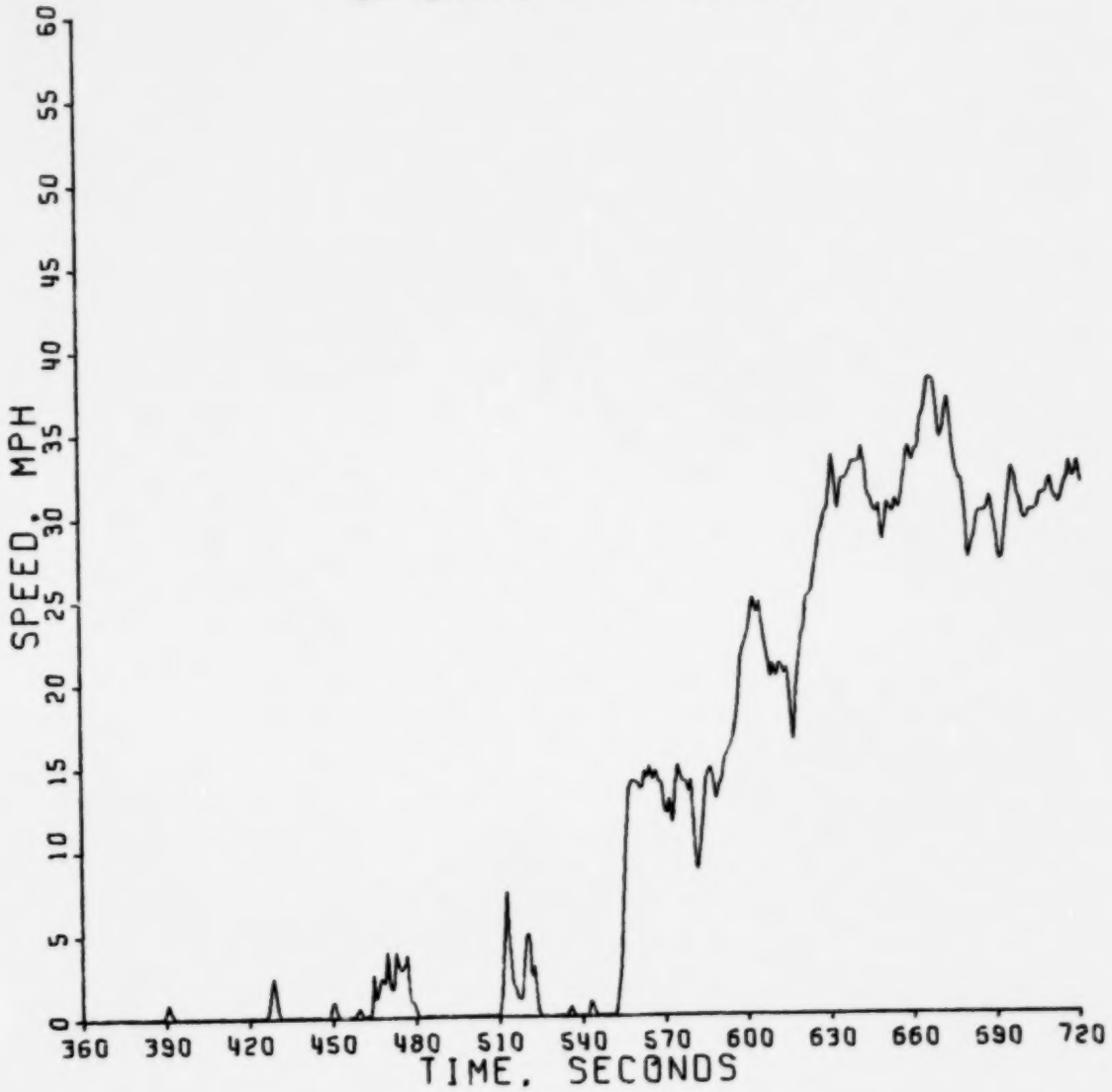


FIGURE 15. (CONTINUED)

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2041393295

DATA BASE: LA BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 20.65 MPH
DURATION = 17.71 MIN
DISTANCE = 6.10 MILES
INTERVAL = 1.00 SEC

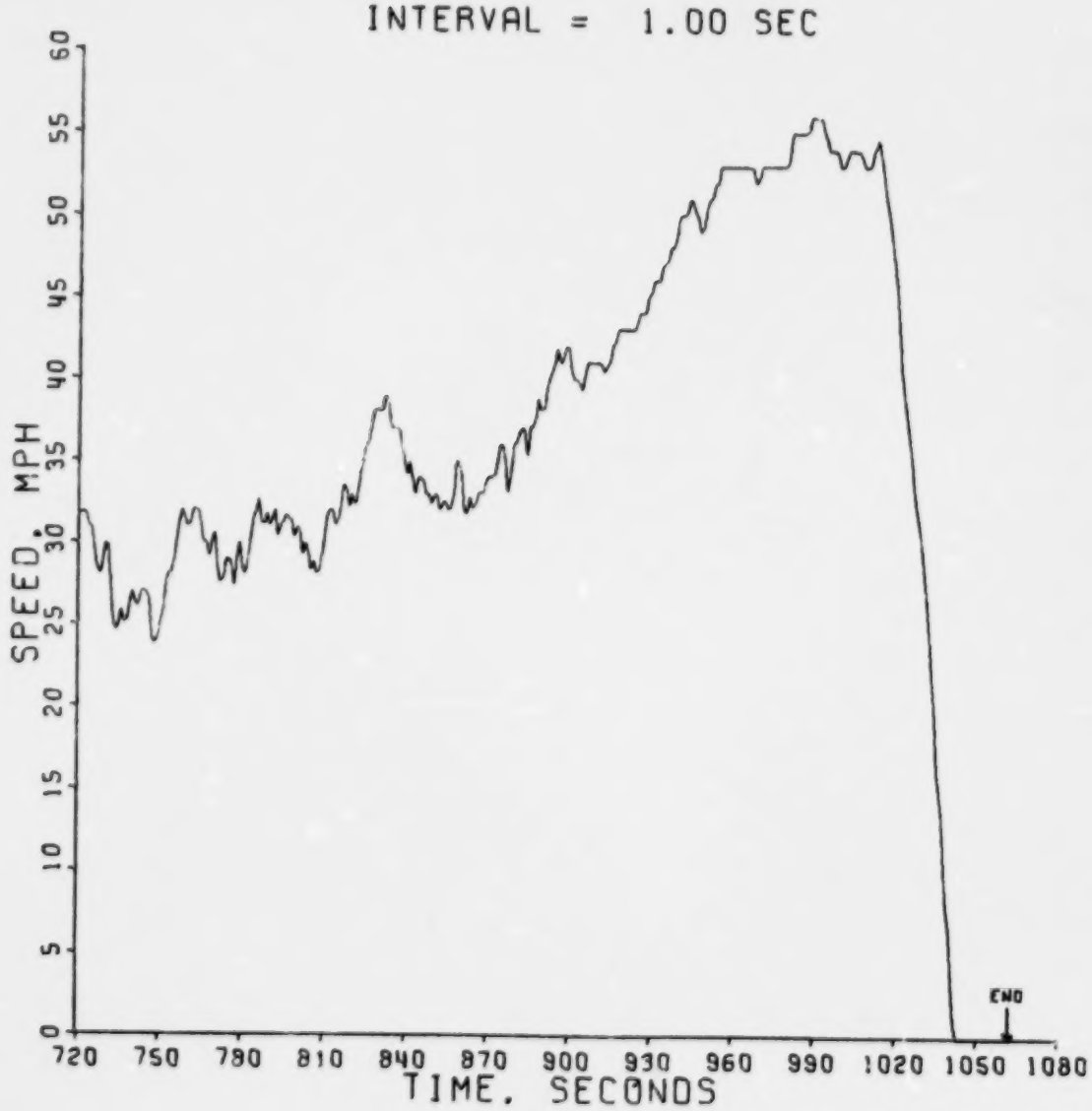


FIGURE 16.

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2143765149

DATA BASE: NY BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 8.77 MPH
DURATION = 17.15 MIN
DISTANCE = 2.51 MILES

INTERVAL = 1.00 SEC

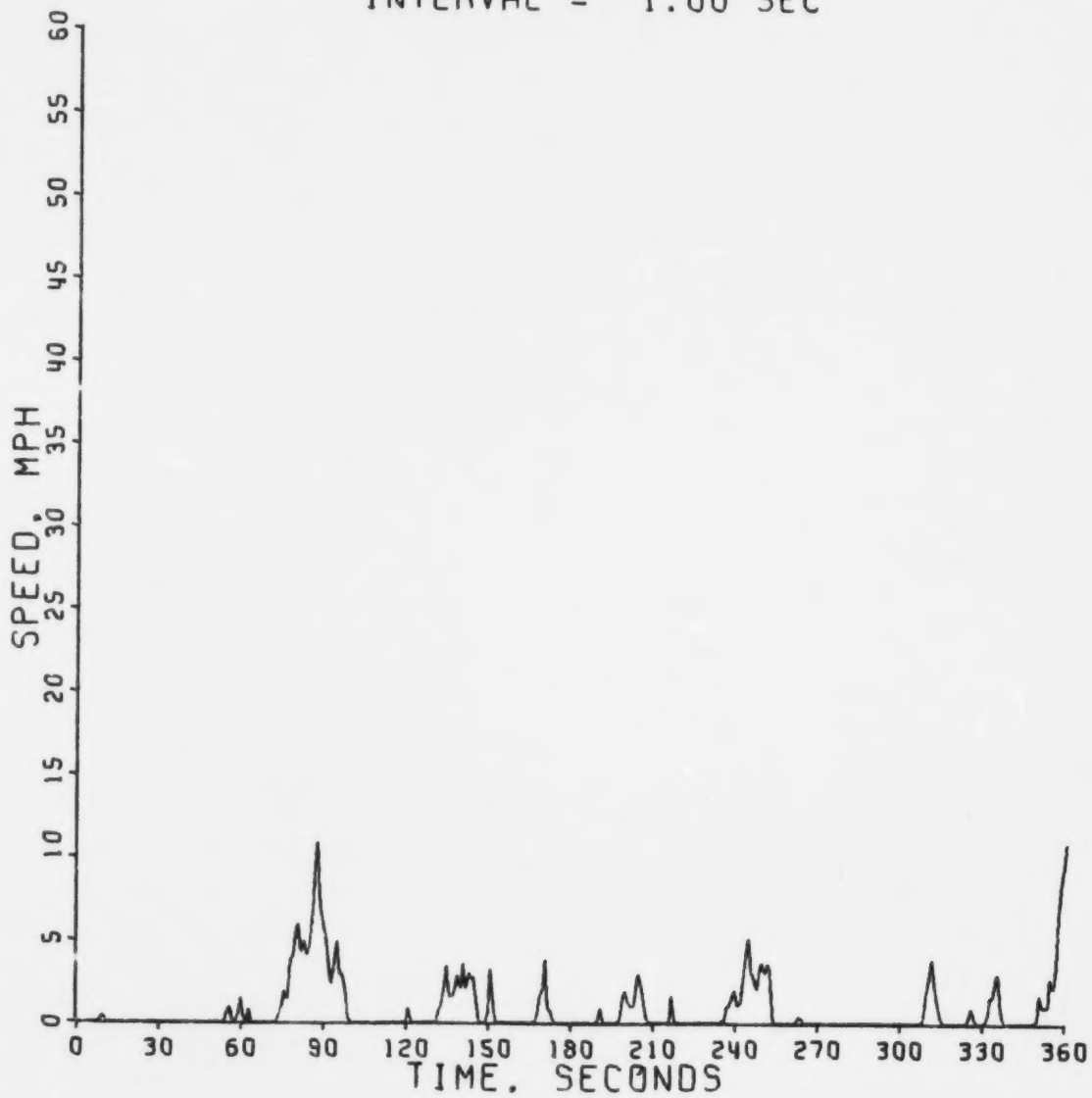


FIGURE 16. (CONTINUED)

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2143765149

DATA BASE: NY BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 8.77 MPH
DURATION = 17.15 MIN
DISTANCE = 2.51 MILES

INTERVAL = 1.00 SEC

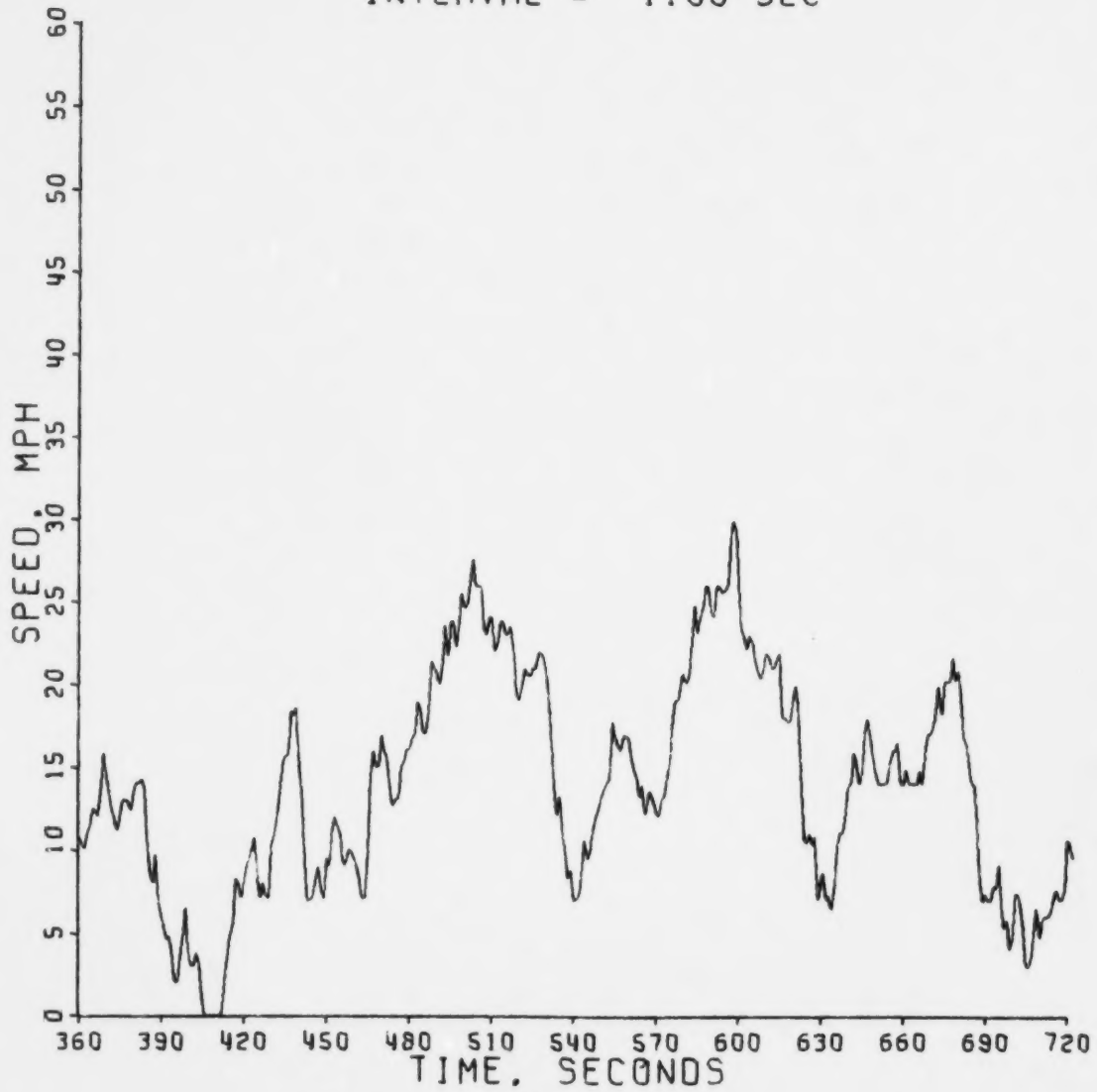


FIGURE 16. (CONTINUED)

DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2143765149

DATA BASE: NY BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 8.77 MPH
DURATION = 17.15 MIN
DISTANCE = 2.51 MILES
INTERVAL = 1.00 SEC

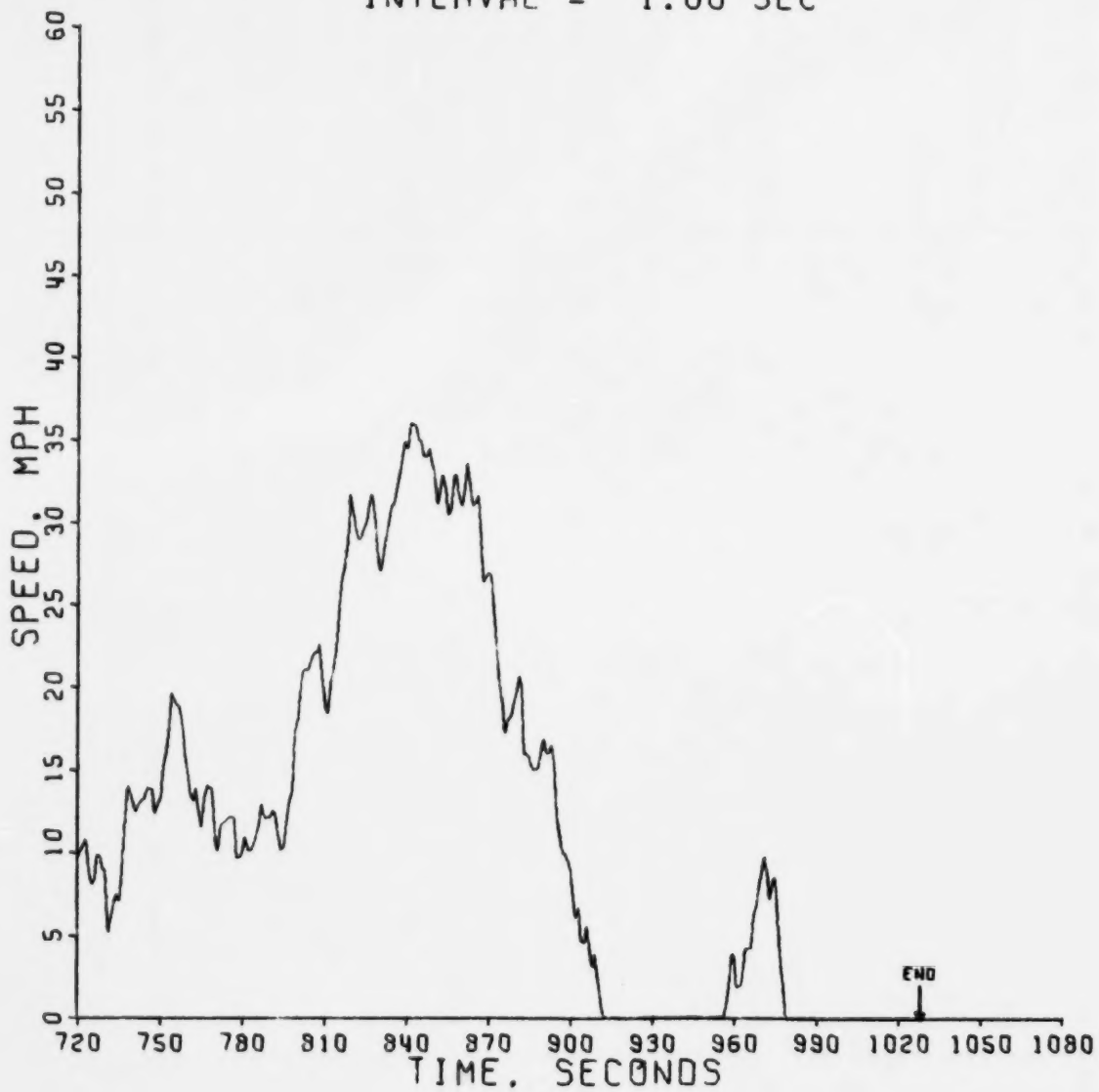
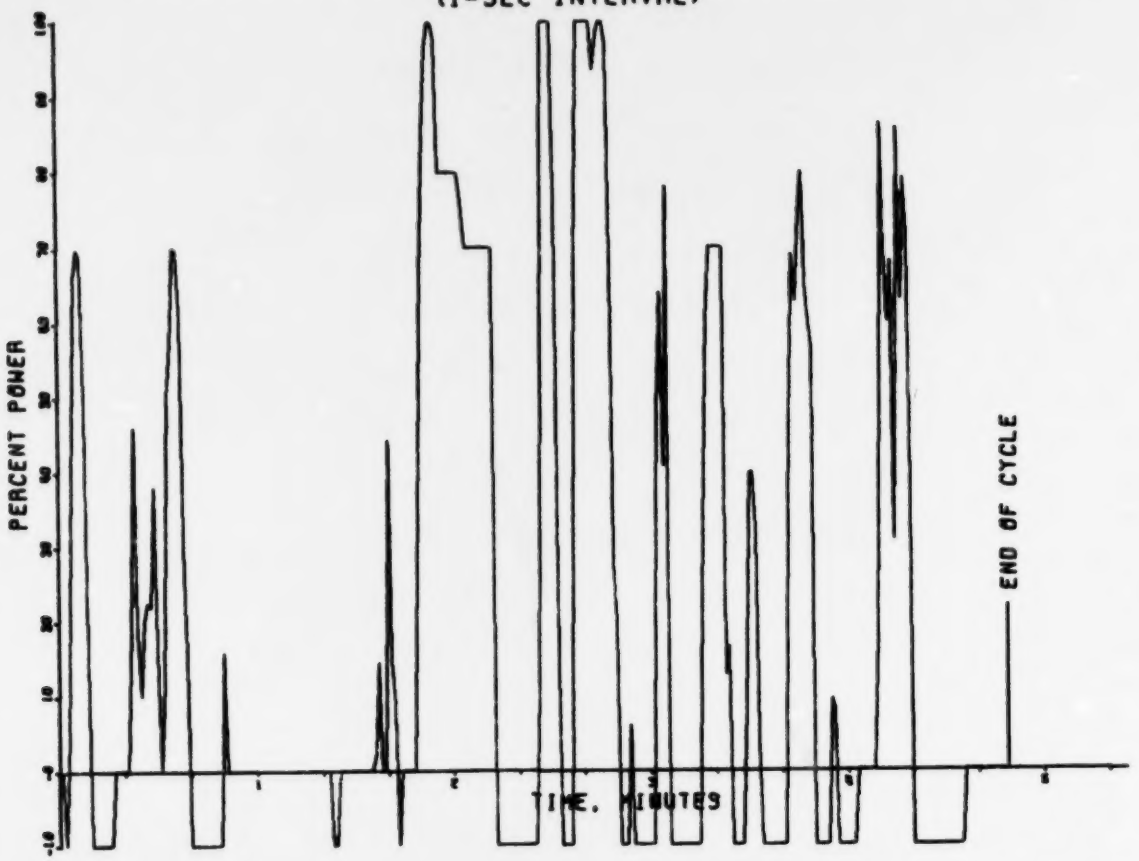


FIGURE 17. LA BUSES FWY + NFWY: CYCLE 2049482045
(1-SEC INTERVAL)



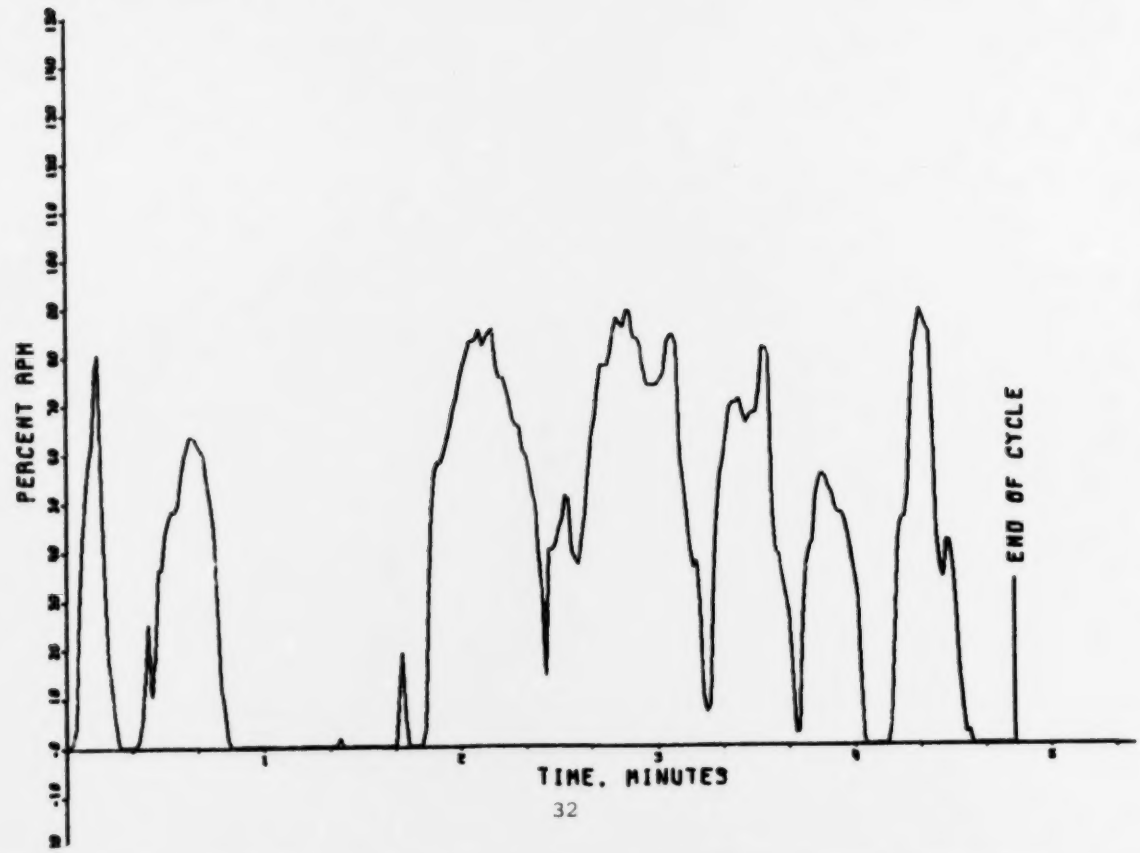
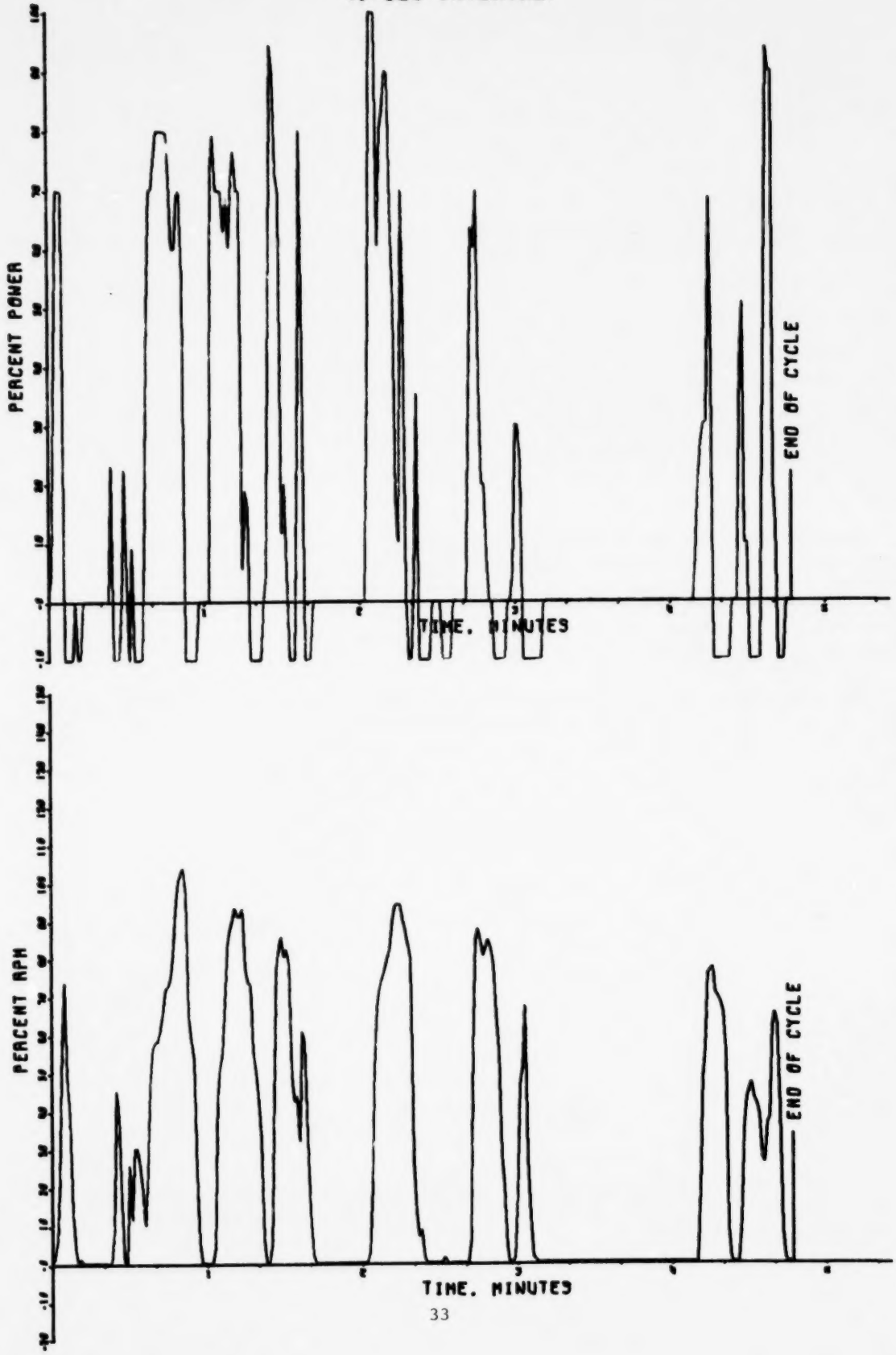



FIGURE 18. NY BUSES FWY + NFWY: CYCLE 2109178847
(1-SEC INTERVAL)



Section 2

# INTRODUCTION

This section presents the background, objectives, and scope of EPA Contract No. 68-03-0411, "Heavy-Duty Vehicle Cycle Development".

## 2.1 BACKGROUND

The CAPE-21 program, a two-phase heavy-duty vehicle driving pattern and use survey, commenced in 1972 under the joint sponsorship of the Coordinating Research Council (CRC) and the Environmental Protection Agency (EPA). A Phase I study contract was awarded to Wilbur Smith and Associates (WSA) for the purpose of developing sampling plans for the collection of heavy-duty vehicle operating data in New York City and the Los Angeles Basin (References 1 and 2).

Phase II of the CAPE-21 program, collection of heavy-duty vehicle and engine data using instrumented trucks and buses selected in accordance with the Phase I sampling plans, started in New York City in 1973 under the direction of WSA in association with Wyle Laboratories. The Los Angeles data collection effort was accomplished in 1975 under EPA direction with support from personnel of both the EPA and Olson Laboratories.

The sampling plans were based on the requirement to instrument 50 trucks and 5 buses in each city. The truck sample in each city was stratified by engine type (gasoline-fueled and diesel-fueled), and vehicle type (2-axle single unit, 3-axle single unit, and tractor-trailer), as well as by the other parameters discussed in References 1 and 2. Each data record contained 10 channels of information as follows:

| Channel | Parameter |
|---|---|
| 1 | Vehicle ID and time (tens of hours) |
| 2 | Time (hours units and minutes) |
| 3 | Engine speed |
| 4 | Load factor |
| 5 | Vehicle speed (optical encoder) |
| 6 | Road type |
| 7 | Traffic density |
| 8 | Throttle position (open/closed) |
| 9 | Engine temperature |
| 10 | Vehicle speed (tach generator) |

The data were recorded sequentially at the rate of one data record each 0.864 seconds and the data in Channels 3 through 10 were recorded in units of millivolts of signal level.

The transducers were calibrated prior to installation on each truck for later conversion of the signal levels to engineering units. Each instrumented truck was then run on a chassis dynamometer at different levels of rpm and load factor (manifold vacuum for gasoline engines, rack position for Detroit Diesel Allison (DDA) engines, and rail pressure for Cummins Engine Company engines). Each instrumented truck was then used by the owner to perform its normal daily function. In accordance with the sampling plan, each truck was operated for 2 to 5 days. After collection of the required number of days of data, the instrumentation was removed and the truck returned to the owner.

The Phase II activities of the CAPE-21 program are documented in References 3 and 4.

## 2.2 OBJECTIVES

The objectives of the truck-cycle program were:

1. Develop a software package to process the CAPE-21 data into the required format for the development of engine-dynamometer and chassis-dynamometer cycles.

2. Develop the software necessary to generate engine-dynamometer and chassis-dynamometer cycles representative of the CAPE-21 data base.

3. Generate candidate engine-dynamometer and chassis-dynamometer cycles for trucks and buses from the CAPE-21 data base using the cycle-generation software.

## 2.3 SCOPE

The scope of the truck-cycle program discussed here encompassed the following major activities:

1. Support the EPA during the Los Angeles CAPE-21 data collection effort.

2. Process CAPE-21 raw-data tapes to edited tapes.

3. Process edited tapes to final tapes in which load factor is replaced by percent power and rpm is replaced by percent rpm.

4. Process the CAPE-21 data base into matrix formats by fuel/axle-type categories suitable for cycle development.

5. Generate candidate engine-dynamometer and chassis-dynamometer cycle segments for submission to the EPA.

6. Software documentation.

## Section 3

## DATA PROCESSING

The CAPE-21 data collection program consisted of instrumenting heavy-duty trucks and buses in New York City and the Los Angeles Basin and recording operating data during performance of each instrumented vehicle's normal job function. In accordance with the sampling plans developed in Phase I, 50 trucks and 5 buses were instrumented in each area. During the data processing phase of the present program, some vehicles were deleted from the vehicle sample because of instrumentation problems or the lack of reliable calibration or other necessary input information. The CAPE-21 data base then consisted of the operating data for 44 trucks and 4 buses in New York and 44 trucks and 3 buses in Los Angeles. The total CAPE-21 data sample used to generate chassis and engine cycles consisted of 290 truck-days and 21 bus-days of operation. The composition of the CAPE-21 sample is shown by vehicle in Table 2.

The raw data were recorded on magnetic tape cartridges with Metrodata Loggers in a 4-track format at a density of 200 bpi. Each data record, recorded at the rate of 1 record every 0.864 seconds, contained 10 channels of digital data as described above.

The sequence of data processing steps is shown in Figure 1 of the Summary. First, each tape cartridge, containing 1 vehicle-day of operating data, was processed by Wyle Laboratories to produce 9-track, IBM-compatible tape files at a density of 800 bpi for subsequent processing on the IBM 360/50 at the University of California, Riverside. During processing of the raw-data cartridges, whenever a parity error was encountered for a record, that record was replaced by one containing zero in each channel. If the number of those records, called zeroed records, exceeded 10 percent of the total number of records for a data file, the data for that day of operation were rejected. The raw-data tape processing was accomplished in a timely manner to permit replacement of a rejected day by operating the instrumented vehicle for an additional day.

Upon receipt of the IBM-compatible tapes, the first 1,000 records plus a random selection of 5 percent of the remaining records in each file were printed and reviewed. These data dumps were analyzed to ascertain that the recorded data appeared to be reasonable; i.e., that there were no obvious instrumentation problems and to determine the proper starting record for the file. The latter was necessary because the beginning of each tape file is noisy due to start-up instability, resulting in zeroed records and incomplete records.

The software which creates what are called the "millivolted" tapes thus skips the noisy portion of each file and writes to a new tape starting with the selected first record. That software unscrambles the packed format in which the raw-data tapes are written, puts all of the time data in Channel 2, and converts the signal levels in Channels 6, 7, and 8 into 1-digit codes, as

Table 2. CAPE-21 SAMPLE BY VEHICLE

| CATEGORY | VEHICLE NUMBER | NUMBER OF DAYS | HOURS OF ENGINE-ON OPERATION |
|---|---|---|---|
| LA 2-AXLE GAS | 5 | 4 | 7.03 |
| | 7 | 4 | 17.08 |
| | 10 | 4 | 13.97 |
| | 11 | 5 | 22.69 |
| | 13 | 4 | 15.37 |
| | 14 | 4 | 15.62 |
| | 17 | 2 | 6.54 |
| | 19 | 5 | 12.57 |
| | 21 | 3 | 12.50 |
| | 24 | 4 | 10.41 |
| | 25 | 4 | 15.99 |
| | 26 | 4 | 9.18 |
| | 28 | 6 | 8.41 |
| | 30 | 3 | 8.21 |
| | 32 | 4 | 6.02 |
| | 36 | 1 | 1.68 |
| | 40 | 3 | 9.45 |
| | 42 | 3 | 6.09 |
| | 47 | 4 | 14.65 |
| LA 3-AXLE GAS | 35 | 4 | 15.57 |
| LA TT GAS | 2 | 2 | 9.03 |
| | 3 | 3 | 10.46 |
| | 8 | 4 | 15.71 |
| | 12 | 4 | 19.96 |
| | 39 | 4 | 20.43 |
| | 43 | 3 | 7.79 |
| | 48 | 4 | 11.28 |
| LA 2-AXLE DIESEL | 23 | 2 | 8.48 |
| LA 3-AXLE DIESEL | 29 | 6 | 27.45 |
| | 31 | 3 | 14.87 |
| | 37 | 5 | 31.72 |
| | 38 | 2 | 2.26 |
| | 44 | 5 | 12.10 |
| LA TT DIESEL | 6 | 3 | 15.77 |
| | 15 | 2 | 11.50 |
| | 20 | 2 | 7.88 |
| | 22 | 2 | 9.62 |
| | 27 | 2 | 7.90 |
| | 33 | 1 | 3.16 |
| | 34 | 2 | 10.69 |
| | 41 | 2 | 6.56 |
| | 45 | 5 | 30.61 |
| | 46 | 2 | 7.64 |
| | 51 | 2 | 10.21 |

Table 2. CAPE-21 SAMPLE BY VEHICLE (Continued)

| CATEGORY | VEHICLE NUMBER | NUMBER OF DAYS | HOURS OF ENGINE-ON OPERATION |
|---|---|---|---|
| NY 2-AXLE GAS | 2 | 2 | 5.14 |
| | 3 | 2 | 7.05 |
| | 4 | 4 | 12.99 |
| | 5 | 3 | 12.97 |
| | 6 | 2 | 14.94 |
| | 8 | 3 | 11.76 |
| | 9 | 5 | 28.00 |
| | 11 | 3 | 12.45 |
| | 12 | 1 | 3.88 |
| | 13 | 5 | 15.94 |
| | 17 | 3 | 24.58 |
| | 20 | 4 | 25.60 |
| | 21 | 1 | 3.25 |
| | 25 | 3 | 13.40 |
| | 31 | 5 | 25.80 |
| | 32 | 3 | 7.98 |
| | 33 | 1 | 3.82 |
| | 35 | 4 | 14.83 |
| | 38 | 3 | 11.24 |
| | 44 | 4 | 3.47 |
| | 45 | 5 | 9.02 |
| | 48 | 4 | 4.42 |
| | 49 | 5 | 4.80 |
| | 50 | 5 | 34.53 |
| | 51 | 1 | 2.40 |
| | 61 | 2 | 7.13 |
| NY 3-AXLE GAS | 59 | 2 | 9.16 |
| NY TT GAS | 7 | 2 | 9.60 |
| | 28 | 4 | 28.21 |
| | 30 | 3 | 6.27 |
| NY 2-AXLE DIESEL | 62 | 5 | 30.70 |
| NY 3-AXLE DIESEL | 36 | 3 | 26.48 |
| | 37 | 1 | 4.69 |
| | 43 | 5 | 9.18 |
| | 54 | 4 | 23.47 |
| | 57 | 3 | 21.30 |
| NY TT DIESEL | 27 | 3 | 18.88 |
| | 34 | 4 | 13.58 |
| | 42 | 3 | 14.53 |
| | 53 | 5 | 11.46 |
| | 55 | 3 | 22.98 |
| | 56 | 5 | 26.43 |
| | 60 | 3 | 13.24 |
| | 65 | 2 | 9.59 |

Table 2. CAPE-21 SAMPLE BY VEHICLE (Continued)

| CATEGORY | VEHICLE NUMBER | NUMBER OF DAYS | HOURS OF ENGINE-ON OPERATION |
|---|---|---|---|
| LA DIESEL BUSES | 90 | 3 | 14.94 |
| | 91 | 2 | 24.33 |
| | 94 | 3 | 31.81 |
| NY DIESEL BUSES | 80 | 3 | 27.78 |
| | 81 | 5 | 53.02 |
| | 82 | 3 | 38.98 |
| | 83 | 2 | 11.24 |

shown below. Channels 1 and 2 then contain a 2-digit vehicle ID number and a 4-digit time (hours and minutes), respectively. The remaining channels contain transducer output signal levels in units of millivolts.

| Channel | Code | Description |
|---|---|---|
| 6 - Road Type | 0 | Unknown |
| | 1 | Freeway |
| | 2 | Arterial |
| | 3 | Local |
| 7 - Traffic Density | 0 | Unknown |
| | 1 | Light |
| | 2 | Medium |
| | 3 | Heavy |
| 8 - Throttle Position | 0 | Closed |
| | 1 | Open |

The 5-percent data audit is then supplemented by the creation of a frequency matrix of rpm versus load factor (called the EVSL matrix) for each vehicle, where the load factor is manifold vacuum for gasoline engines, rack position for Detroit Diesel Allison (DDA) engines, and fuel pressure (rail pressure) for the diesel engines produced by the Cummins Engine Company. The EVSL matrix provides an initial assessment of the vehicle engine operating pattern and can reveal a data problem not observed in the 5-percent audit. Another EVSL matrix, called the ZIPEVSL matrix, is also created for each vehicle using just those records where the vehicle speed is zero. That matrix is used to identify a submatrix called the "idle box" which defines the rpm and load factor ranges within which the vehicle is said to be idling (Reference 5).

It should be noted here that the Channel-5 vehicle speed was measured initially with a tach generator. It was found, however, that the filter required to lower the noise level had an unacceptably-long time constant. The tach generator was replaced by an optical encoder which had no delay. The optical encoder, however, because of vibration when the vehicle was idling, sometimes recorded speeds as high as 15 mph when the vehicle speed was zero. That is, a vehicle might stop where the target was partly in view of the encoder window. As a result of vehicle vibration, the target would oscillate into and out of the window, generating an input signal to Channel 5. The tach generator was, therefore, put back in the system and its output fed to Channel 10. Thus, when the vehicle was moving, Channel 5 gave an accurate measure of vehicle speed. When the vehicle was stopped, the tach generator gave a reliable zero-speed signal in Channel 10. Therefore, whenever Channel 10 showed zero speed, Channel 5 was zeroed.

The major data-processing effort was devoted to editing the tapes. The editing procedures, discussed in detail below, accomplish the following:

1. Convert millivolts of engine speed, load factor, vehicle speed, and engine temperature into the appropriate engineering units.

2. Replace a single zeroed record by a record with linearly-interpolated values.

3. Replace two or more consecutive zeroed records with a single zeroed record.

4. Delete engine-off records and replace with a single zeroed record.

5. Replace a single record with bad or out-of-range values by a record with the bad values replaced by linearly-interpolated values.

6. Replace two or more consecutive records with bad values in the same channel by a single zeroed record.

7. Insert a zeroed record before a record which contains a bad value for time of day.

8. Zero the Channel-5 vehicle speed when the Channel-10 speed is zero.

9. Delete any record isolated by zeroed records immediately preceding and following.

10. Set load factor to the maximum value if load factor is no greater than the maximum plus 13 millivolts.

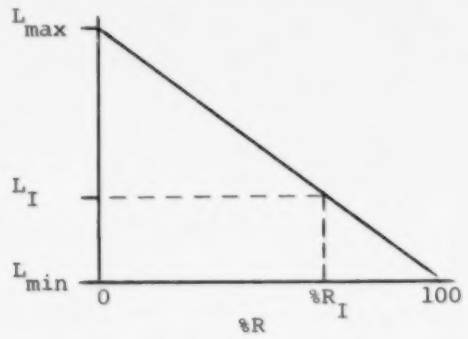
11. Set load factor to the minimum value if load factor is no less than the minimum minus 13 millivolts.

The tranducers used to measure engine speed, load factor, vehicle speed, and water temperature were calibrated prior to installation on each vehicle. Those calibration data provided the means for converting the signal level in millivolts to the desired engineering value. Since linear transducers were used, the conversions were linear. Engine speed for each truck was converted to units of rpm by simply multiplying millivolts by a constant, nominally with a value around 10. Millivolts of vehicle speed were converted to mph for each truck by multiplying by a constant with a value of about 0.10. The signal level for water temperature was converted to degrees on the Fahrenheit scale by multiplying by a slope (in the region of -0.3) and adding an intercept (usually around 220).

The load-factor conversions depended, of course, on the engine/fuel type. In the case of gasoline engines, a vacuum transducer was used to measure manifold vacuum. Therefore, the Channel-4 signal level was multiplied by a slope and added to an intercept to yield manifold vacuum in inches of mercury. Load factor for the DDA diesel engines was taken to be rack position. The Channel-4 signal level was thus proportional to the amount of rack travel. The signal level could first be multiplied by the calibration slope and then added to an intercept to give a rack position in units of inches of travel. However, in anticipation of the computation of horsepower at the next step in the process, the Channel-4 signal level was converted to percent rack travel, %R.

The procedure for computing %R is based on the observation that rack travel for all DDA engines is approximately 0.780 inches. What is required,

then, is the number of millivolts of transducer output when the rack is at each of the two extremes of travel. At one extreme the engine is at maximum power (at each rpm) and the (constant) signal level at that point was measured consistently. For reasons not completely understood, the signal level at the other travel extreme could not be established to give consistent, compatible results. Another technique was used, therefore, which did yield reasonable measures. Let the signal level at 100-percent power be denoted by $L_{max}$ (millivolts) and adopt the convention that $L_{max}$ corresponds to zero-percent rack travel; i.e., %R = 0. The horsepower model for DDA engines (to be discussed below) is a function of rpm and %R which yields percent power, %P, directly. The nominal idle rpm and %P = 0 are input to the model and percent rack at idle, $\%R_I$, is computed. Let the nominal idle load factor be denoted by $L_I$ (millivolts) and let the load factor at %R = 100 be $L_{min}$. A straight line drawn between the points at $L_{max}$ and $L_I$ is then extrapolated to determine $L_{min}$ (millivolts), as shown in the following diagram:




For the value of load factor, L, in a data record, the corresponding percent rack travel is computed from

$$\%R = \frac{L_{max} - L}{L_{max} - L_{min}} \times 100.$$

The load-factor parameter for the diesel engines produced by Cummins is fuel pressure (or rail pressure). The signal level in millivolts was converted to fuel pressure in psi by multiplying by the transducer calibration slope and adding the intercept.

In addition to the conversions to engineering units, it was necessary to eliminate bad data values, engine-off records (for efficiency in subsequent tape operations), and stretches of zeroed records. Because load factor can be a very rapidly changing variable, it was decided that interpolations should not be made over more than one record, or 0.864 seconds of time. Therefore, whenever a single zeroed record was encountered, the values in each channel of the proceeding and following records were averaged and written as a replacement record for the zeroed record. Two or more consecutive zeroed records, however, were replaced by a single zeroed record and no interpolating was performed.

Minimum and maximum permissible values of rpm and load factor were established by analysis of the EVSL matrices. If a value outside the prescribed range for either parameter was found in a single record, the bad value was replaced by the average of the preceding and following values. If two or more consecutive records had bad values in a single channel, those records were deleted and replaced by a single zeroed record. Each data file was stripped of its engine-off records, and a single zeroed record inserted, so that those records of no interest need not be read in all subsequent tape operations.

The change in vehicle speed from one record to the next was constrained by what is called the AMAX model developed by the EPA. That model established a maximum increase in speed (maximum acceleration), from one record to the next, as a function of the initial speed. (No constraint was put on a decrease in speed (deceleration) from one record to the next.) Whenever the speed on a given record was larger than that on the preceding record by an amount exceeding that permitted by the AMAX model, the speed was replaced by the average of the preceding and succeeding speeds and tested again with the AMAX model. If the interpolated speed failed the AMAX test, the record was replaced by a zeroed record.

Whenever the time-of-day value was bad (i.e., was greater than 1 minute later than the previous time or was less than the previous time), a zeroed record was inserted as a marker. No actual editing of the time channel was accomplished because the time data were not needed for subsequent processing, analysis, and cycle development. Any record which was isolated by zeroed records immediately preceding and following it was deleted because no deltas could be obtained, thus making the record of no value. Finally, because of the error inherent in the transducers and their calibrations, any load factor in the range of the maximum to the maximum plus 13 millivolts was set equal to the maximum. Any load factor in the range of the minimum to the minimum minus 13 millivolts was set equal to the minimum. An example of the inputs to the edit program is shown in Table 3. The outputs from the edit program for the 2 days of that same truck are shown in Tables 4 and 5. Edit summary data by category are given for Los Angeles and New York in Tables 6 and 7, respectively.

The final step in the tape-processing procedure was the conversion of rpm to percent rpm, %E, and the conversion of load factor to percent power, %P. The resulting set of tapes, called the power tapes, constitutes the CAPE-21 data base and provided the input to all subsequent analysis and cycle generation.

The conversion of rpm to %E was made with respect to the manufacturer's rated rpm, $E_R$, for each engine and the idle-bpx rpm-range limits called E-upper, $E_U$, and E-lower, $E_L$ (Reference 5). Denoting the value of rpm for a given record by E, when $E < E_L$, then

$$\%E = \frac{E - E_L}{E_R - E_L} \times 100,$$

and when $E > E_U$, then

Table 3. EDIT INPUT FOR LA TRUCK 17

CARD INPUTS FOR LA TRUCK 17, DAYS 1, 2.

RPM CONVERSION SLOPE = 10.000

LF CONVERSION SLOPE = -0.034849

LF INTERCEPT = 31.854

SPEED CONVERSION SLOPE = 0.0833

TEMP CONVERSION SLOPE = -0.32500

TEMP INTERCEPT = 225.00

AMAX INPUTS: A = 5153.0
B = 8256.4
C = 11.0080
X = 199.26

L-100 INPUTS: SLOPE = -0.04345
CONST = 955.70

MAXIMUM LOAD FACTOR = 914

MINIMUM LOAD FACTOR = 198

MAXIMUM RPM = 3950

TACH GENERATOR INPUTS:

| DAY | OVER-THE-TOP (1 = YES, 0 = NO) | TYPE (-1 = NEGATIVE, 0 = NOT USED, 1 = POSITIVE) | OFFSET |
|---|---|---|---|
| 1 | 0 | 1 | 2 |
| 2 | 0 | 1 | 0 |

VALVE CLOSURE FLAG = 0 (1 = REVERSED, 0 = NOT-REVERSED)

LOCATION FLAG = 1 (1 = LA, 0 = NY)

COMPUTED CONSTANTS:

CRITICAL GEAR REDUCTION = 27.38678

CRITICAL SPEED = 7.27577

MAXIMUM AMAX VALUE = 8.54635

MAX RPM AT MAX LF = 959

HEADER INFORMATION:

LA 17/01 2-AXLE GAS

TRANSDUCER CALIBRATIONS:

RPM SLOPE = 10.000

LOAD FACTOR: SLOPE = -0.034849

INTERCEPT = 31.854

SPEED SLOPE = 0.0833

TEMPERATURE: SLOPE = -0.32500

INTERCEPT = 225.00

*

Table 4. EDIT OUTPUT FOR LA - TRUCK 17, DAY 1

```
-----EDITING SUMMARY-----

TOTAL NUMBER OF RECORDS REQUIRING EDITING          =  1324
      NUMBER OF ZEROED RECORDS ON INPUT TAPE       =   243
      NUMBER OF ENGINE-OFF RECORDS                 =   881
      NUMBER OF RECORDS WITH OUT-OF-RANGE VALUES   =   200


NUMBER OF RECORDS WITH:
      RPM ABOVE RPM MAXIMUM(3950.)      =     0
      RPM BETWEEN 0 AND 300             =     7
      RPM BELOW 0                       =     0
      LF ABOVE L100+13                  =    71
      LF BETWEEN L100 AND L100+13       =    85
      LF BETWEEN LF C/O AND LF C/O-13   =     0
      LF BELOW LF C/O-13                =     0
      SPEED ABOVE 70                    =     0
      SPEED NEGATIVE WHILE MOVING       =     1
      DELTA-SPEED EXCEEDING AMAX        =    36
      SPEED TO BE ZEROED                =   316
      (NOT AN OUT-OF-RANGE VALUE)


TOTAL NUMBER OF INTERPOLATED RECORDS                =   166
      RPM ABOVE RPM MAXIMUM INTERPOLATIONS          =     0
      RPM BETWEEN 0 AND 300 INTERPOLATIONS          =     1
      RPM BELOW 0 INTERPOLATIONS                    =     0
      LF ABOVE L100+13 INTERPOLATIONS               =     0
      LF BELOW C/O-13 INTERPOLATIONS                =     0
      SPEED ABOVE 70 INTERPOLATIONS                 =     0
      NEGATIVE SPEED INTERPOLATIONS                 =     1
      SPEED INTERPOLATIONS DUE TO AMAX CRITERION    =    27
      ZEROED RECORD INTERPOLATIONS                  =   137


TOTAL NUMBER OF RECORDS ELIMINATED DURING EDIT =  1072
      RPM ABOVE RPM MAXIMUM                    =     0
      RPM BETWEEN 0 AND 300                    =     6
      RPM BELOW 0                              =     0
      LF ABOVE L100+13                         =    70
      LF BELOW C/O-13                          =     0
      SPEED ABOVE 70                           =     0
      NEGATIVE SPEED                           =     0
      AMAX CRITERION                           =     9
      CONSECUTIVE ZEROED RECORDS               =   106
      CONSECUTIVE ENGINE-OFF RECORDS           =   881


TOTAL NUMBER OF NON-ZEROED, ENGINE-ON RECORDS ELIMINATED  =    85
TOTAL NUMBER OF ZEROED RECORDS ON OUTPUT TAPE             =    69
      THOSE DUE TO TIME DISCREPANCIES                     =     1

TOTAL NUMBER OF RECORDS NOT REQUIRING EDITING             = 18356
TOTAL NUMBER OF GOOD RECORDS ELIMINATED                   =     5

TOTAL NUMBER OF RECORDS ON INPUT TAPE                     = 19680
TOTAL NUMBER OF RECORDS ON OUTPUT TAPE                    = 18672


-----END OF CONVERT AND EDIT FOR  LA TRUCK 17, DAY 1 .-----
```

Table 5. EDIT OUTPUT FOR LA - TRUCK 17, DAY 2

```
-----EDITING SUMMARY-----

TOTAL NUMBER OF RECORDS REQUIRING EDITING          =    73
      NUMBER OF ZEROED RECORDS ON INPUT TAPE       =     8
      NUMBER OF ENGINE-OFF RECORDS                 =    58
      NUMBER OF RECORDS WITH OUT-OF-RANGE VALUES   =     7


NUMBER OF RECORDS WITH:
      RPM ABOVE RPM MAXIMUM(3950.)     =     0
      RPM BETWEEN 0 AND 300            =     1
      RPM BELOW 0                      =     0
      LF ABOVE L100+13                 =     0
      LF BETWEEN L100 AND L100+13      =     1
      LF BETWEEN LF C/O AND LF C/O-13  =     0
      LF BELOW LF C/O-13               =     0
      SPEED ABOVE 70                   =     0
      SPEED NEGATIVE WHILE MOVING      =     0
      DELTA-SPEED EXCEEDING AMAX       =     5
      SPEED TO BE ZEROED               =    91
      (NOT AN OUT-OF-RANGE VALUE)


TOTAL NUMBER OF INTERPOLATED RECORDS                =     5
      RPM ABOVE RPM MAXIMUM INTERPOLATIONS          =     0
      RPM BETWEEN 0 AND 300 INTERPOLATIONS          =     0
      RPM BELOW 0 INTERPOLATIONS                    =     0
      LF ABOVE L100+13 INTERPOLATIONS               =     0
      LF BELOW C/O-13 INTERPOLATIONS                =     0
      SPEED ABOVE 70 INTERPOLATIONS                 =     0
      NEGATIVE SPEED INTERPOLATIONS                 =     0
      SPEED INTERPOLATIONS DUE TO AMAX CRITERION    =     4
      ZEROED RECORD INTERPOLATIONS                  =     1


TOTAL NUMBER OF RECORDS ELIMINATED DURING EDIT =    67
      RPM ABOVE RPM MAXIMUM                    =     0
      RPM BETWEEN 0 AND 300                    =     1
      RPM BELOW 0                              =     0
      LF ABOVE L100+13                         =     0
      LF BELOW C/O-13                          =     0
      SPEED ABOVE 70                           =     0
      NEGATIVE SPEED                           =     0
      AMAX CRITERION                           =     1
      CONSECUTIVE ZEROED RECORDS               =     7
      CONSECUTIVE ENGINE-OFF RECORDS           =    58


TOTAL NUMBER OF NON-ZEROED, ENGINE-ON RECORDS ELIMINATED  =     2
TOTAL NUMBER OF ZEROED RECORDS ON OUTPUT TAPE             =     9
      THOSE DUE TO TIME DISCREPANCIES                     =     1

TOTAL NUMBER OF RECORDS NOT REQUIRING EDITING             =  8645
TOTAL NUMBER OF GOOD RECORDS ELIMINATED                   =     0

TOTAL NUMBER OF RECORDS ON INPUT TAPE                     =  8718
TOTAL NUMBER OF RECORDS ON OUTPUT TAPE                    =  8660


-----END OF CONVERT AND EDIT FOR LA TRUCK 17, DAY 2  .-----
```

Table 6. EDIT SUMMARY FOR LA CATEGORIES

| CATEGORIES | 2-AXLE GAS | 3-AXLE GAS | TT GAS | 2-AXLE DIESEL | 3-AXLE DIESEL | TT DIESEL | BUSES |
|---|---|---|---|---|---|---|---|
| Out-of-Range Values: | | | | | | | |
| RPM | 401 | 32 | 243 | 0 | 6,331 | 363 | 158 |
| Load Factor | 9,737 | 721 | 22,467 | 1,683 | 4,171 | 15,045 | 18,929 |
| Speed | 366 | 11 | 4 | 0 | 1 | 3 | 2 |
| Delta Speed | 3,308 | 412 | 1,194 | 1 | 420 | 159 | 730 |
| Interpolations: | | | | | | | |
| RPM | 62 | 16 | 47 | 0 | 93 | 94 | 19 |
| Load Factor | 39 | 49 | 790 | 0 | 593 | 1,770 | 162 |
| Speed | 7 | 9 | 4 | 0 | 1 | 1 | 1 |
| Delta Speed | 2,224 | 233 | 949 | 0 | 384 | 137 | 641 |
| Zeroed Record | 1,581 | 2,049 | 1,790 | 45 | 157 | 650 | 216 |
| LF Set Equal to Maximum | 9,587 | 649 | 21,456 | 11 | 345 | 208 | 0 |
| LF Set Equal to Minimum | 0 | 0 | 0 | 1,647 | 2,247 | 2,728 | 14,842 |
| Records Eliminated: | | | | | | | |
| RPM | 339 | 16 | 196 | 0 | 6,238 | 269 | 139 |
| Load Factor | 109 | 23 | 221 | 25 | 974 | 10,339 | 3,925 |
| Speed | 40 | 1 | 0 | 0 | 12 | 2 | 0 |
| Delta Speed | 1,084 | 179 | 245 | 1 | 36 | 22 | 89 |
| Zeroed Records | 4,108 | 2,287 | 2,291 | 709 | 3,785 | 3,248 | 620 |
| Engine-off Records | 143,362 | 718 | 72,024 | 718 | 13,509 | 46,746 | 14,894 |
| Records on Input Tapes | 1,043,089 | 68,275 | 469,497 | 36,810 | 392,925 | 567,186 | 315,932 |
| Records on Output Tapes | 896,398 | 65,869 | 395,529 | 35,421 | 368,822 | 509,341 | 297,020 |

Table 7. EDIT SUMMARY FOR NY CATEGORIES

| CATEGORIES | 2-AXLE GAS | 3-AXLE GAS | TT GAS | 2-AXLE DIESEL | 3-AXLE DIESEL | TT DIESEL | BUSES |
|---|---|---|---|---|---|---|---|
| Out-of-Range Values: | | | | | | | |
| RPM | 1,429 | 16 | 62 | 29 | 7,342 | 2,242 | 176 |
| Load Factor | 12,007 | 1,822 | 1,911 | 126 | 11,792 | 6,742 | 2,392 |
| Speed | 474 | 0 | 1,023 | 0 | 921 | 219 | 189 |
| Delta Speed | 4,942 | 619 | 261 | 47 | 535 | 2,252 | 857 |
| Interpolations: | | | | | | | |
| RPM | 341 | 0 | 10 | 1 | 236 | 1,005 | 5 |
| Load Factor | 659 | 272 | 250 | 27 | 1,050 | 654 | 394 |
| Speed | 32 | 0 | 41 | 0 | 28 | 8 | 3 |
| Delta Speed | 4,055 | 562 | 202 | 29 | 460 | 1,984 | 822 |
| Zeroed Record | 3,830 | 15 | 144 | 55 | 369 | 849 | 2,446 |
| LF Set Equal to Maximum | 8,076 | 1,318 | 1,608 | 21 | 564 | 595 | 1 |
| LF Set Equal to Minimum | 15 | 0 | 1 | 1 | 41 | 4,082 | 1,232 |
| Records Eliminated: | | | | | | | |
| RPM | 1,088 | 16 | 52 | 28 | 7,109 | 1,235 | 171 |
| Load Factor | 3,257 | 232 | 53 | 77 | 10,131 | 1,413 | 766 |
| Speed | 245 | 0 | 965 | 0 | 713 | 201 | 152 |
| Delta Speed | 886 | 57 | 59 | 18 | 75 | 268 | 35 |
| Zeroed Records | 33,796 | 37 | 1,585 | 6,914 | 12,016 | 6,018 | 6,407 |
| Engine-off Records | 1,164,999 | 18,423 | 85,016 | 17,462 | 96,583 | 277,500 | 74,855 |
| Records on Input Tapes | 2,544,450 | 56,966 | 271,419 | 152,419 | 481,498 | 831,474 | 628,642 |
| Records on Output Tapes | 1,344,428 | 38,334 | 183,904 | 127,995 | 356,408 | 546,484 | 547,132 |

$$\%E = \frac{E - E_U}{E_R - E_U} \times 100.$$

Finally, when $E_L \leq E \leq E_U$ (i.e., idle rpm), then %E is set equal to zero. By converting to %E so that %E = 0 at idle, the data from different trucks with different idle-rpm ranges can be combined into an idle category. In addition, of course, for a cycle to be applied to different engines with different rated-rpm values, the cycle-rpm values must be normalized. That is, when an engine is to be tested, its rated rpm and idle rpm are used to convert from each percent rpm value in the cycle to an rpm in engineering units by solving for E in the preceding equations with $E_U = E_L = E_I$, where $E_I$ is the idle rpm for the engine.

In the initial stages of the program, chassis-dynamometer data giving horsepower for various values of rpm and load factor were used to develop horsepower models. Considerable effort was expended in regression analyses and the development of supplementary data at idle rpm to improve the models. Continuing analysis by the EPA, with assistance from industry, established that even an error-free rear-wheel-power model was not adequate. That is, the relationship between engine-shaft power (the desired measure) and rear-wheel power was both nonlinear and dependent on the selected gear. Since no gear-selection data were recorded on the CAPE-21 program, and since attempts to identify gear selection by computing ratios of rpm to speed were not successful, the EPA provided horsepower models based on engine-dynamometer data, some of which were provided by industry.

In the case of gasoline engines it was found that percent power was essentially equal to percent load factor when percent load factor was appropriately defined (Reference 5). Let $L_{100}(E)$ be the value of load factor when %P = 100 (maximum power) at rpm E, and let $L_0(E)$ be the value of load factor at zero power and the same rpm-value E. Then, if L(E) is the value of load factor for a data record with rpm E,

$$\%P = \frac{L(E) - L_0(E)}{L_{100}(E) - L_0(E)} \times 100. \qquad (3\text{-}1)$$

It should be noted that (3-1) is independent of the units used. Since load factor on the edited tapes was in units of inches of mercury of manifold vacuum, those units were used in the computation of %P.

The values for $L_{100}(E)$ were computed from the chassis-dynamometer data by fitting a straight line to the maximum-horsepower data. That is,

$$L_{100}(E) = m\,E + b,$$

where m and b are the slope and intercept of the line fitting the maximum-power data. The $L_0(E)$ values were measured on the Los Angeles trucks by putting the transmissions in neutral and measuring manifold vacuum for rpm values ranging from idle to about rated, in increments of 250 rpm. Linear

interpolation was employed to determine $L_0(E)$ values between measured points and to extrapolate from idle rpm down to 300 rpm. (The value of 300 rpm was selected as the minimum rpm value likely to be realistic.)

The $L_0(E)$ values for the New York gasoline trucks could not be measured because the trucks were no longer available by the time the new horsepower model had been defined. Therefore, the $L_0(E)$ data (manifold vacuum and rpm) for each Los Angeles gasoline truck were normalized with respect to idle. The normalized data were then averaged to yield what is called the average L-Zero curve. The average L-Zero curve, suitable denormalized with respect to idle for each New York gasoline truck, was then utilized to compute %P from (3-1).

The EPA received assistance from industry in the development of the horsepower models for the diesel trucks (Reference 6). The model for rack-position engines was developed from engine-dynamometer data, supplied by DDA, for the 8V-71N engine with N-65 injectors. That engine was the most commonly represented rack-position diesel in the CAPE-21 sample. The assumption was made that a horsepower model based on those engine data would be adequate for all DDA engines in the CAPE-21 sample.

A total of 92 data points, each consisting of power, rpm, and rack position, was supplemented by an additional 36 points obtained by interpolation after EPA analysis of the original set of points. Engine power was normalized to maximum power at each rpm and the rack position was normalized to the maximum rack travel and denoted by %R. A regression analysis was conducted and the selected horsepower model was:

$$\%P = a + b \log E + c \log E \, (\%R)^{1.56}, \qquad (3\text{-}2)$$

where $a = 173.90$
$b = -22.507$
$c = 0.044802$
$\log E$ = common logarithm of rpm.

The standard error of the estimate for the model is 3.62, in units of percent power. The square of the multiple correlation coefficient, or coefficient of determination, is 0.987. Two constraints are applied to the computations made with the model:

1. When $\%P < 0$, the power is identified as motoring and the magnitude is irrelevant.

2. When $\%P > 100$, %P is set equal to 100.

The Cummins Engine Company provided the EPA with engine-dynamometer data for eight engine types for a total of 284 points, each consisting of a power, an rpm, and a fuel pressure (Reference 6). In addition, the EPA conducted an analysis of no-load (zero-power) fuel pressures and developed a relationship between zero-power fuel pressure, $L_0(E)$, and rpm. That relationship,

$$L_0(E) = 0.1425 \times 10^{-6} E^{2.38} + 2.9419, \quad (3\text{-}3)$$

was used to supplement the Cummins data sample.

Each power value at a given rpm was normalized to maximum power for that rpm and each value of fuel pressure was normalized to the maximum, again at each rpm. Extensive regression analyses were conducted on the data for each engine type and on the combined-data sample. The significant finding was that %P was a function only of percent fuel pressure, %FP; i.e., %P is independent of rpm. The selected horsepower model, which is based on the combined-data sample and, hence, is assumed to be applicable to all Cummins engines, is

$$\%P = 37.475\ (\%FP)^{0.33} - 70.283. \quad (3\text{-}4)$$

The standard error of the estimate for the model is 3.64, in units of percent power, and the coefficient of determination is 0.987.

## Section 4

## DATA ANALYSIS

The CAPE-21 data base in its final form consists of 290 truck-days and 21 bus-days of heavy-duty vehicle operating data. The total number of records is approximately 5.7 million, where each record contains 10 channels of data. An assessment of the information contained in that huge data base was made by compiling a variety of statistics for each vehicle. Decisions concerning which vehicle categories could be combined to minimize the number of different cycles necessary for certification purposes were made on the basis of a category analysis. Questions with respect to the need for a cold-operation segment in certification cycles were answered with what was called a cold/hot analysis. Each of these topics is addressed below.

### 4.1 INDIVIDUAL VEHICLE STATISTICS

In recognition of the need for a variety of statistics from which could be chosen those to provide a basis for a category analysis, computer software was written to compile the data for each truck into statistical and matrix formats. The data output for each truck consisted of 29 pages of printout. The types of information computed for each truck, presented by freeway, non-freeway, and combined road type, included the following:

1. Frequency, density, and distribution functions for:
   a. Engine temperature (40 to 300°F, 5°F increments)
   b. Percent power, %P (motoring to 100, 10-percent increments)
   c. Percent rpm, %E (-22 to +150, 2-percent increments)
   d. Vehicle speed, S (0 to 70 mph, 2-mph increments)

2. Normalized frequency matrices of:
   a. Initial %E versus final %E (-20 to +150, 10-percent increments)
   b. Initial %P versus final %P (motoring to 100, 10-percent increments)
   c. Initial S (0 to 70 mph, 2-mph increments) versus delta S (-9 to +9, 1-mph/0.864-second increments)
   d. %E (-22 to +150, 2-percent increments) versus %P (motoring to 100, 10-percent increments)
   e. S (0 to 70 mph, 2-mph increments) versus %E (-20 to +150, 10-percent increments)
   f. S (0 to 70 mph, 2-mph increments) versus %P (motoring to 100, 10-percent increments)
   g. Traffic density (light, medium, heavy) versus road type (freeway, arterial, local)
   h. Throttle position (closed, open) versus power state (motoring, nonmotoring)

3. Statistics:
   a. Means
   b. Medians

c. Standard deviations
d. Covariances
e. Correlation coefficients

4. Percentage measures:
   a. %P: percent motoring (%M), percent cruise (%C), percent acceleration (%A), and percent deceleration (%D)
   b. %E: percent idle (%I), %C, %A, and %D
   c. S: percent zero (speed identically equal to zero), %I ($S \leq 0.5$ mph), %C, %A, and %D

5. A page of summary statistics

An example of the page of summary statistics is shown in Table 8. The symbol "E( )" in that table should be read as "Expected value (mean) of ( )". Thus E(EXP) is the mean value of the product of E and P, where E and P are in units of percent in this and all subsequent analyses. The symbol "R" denotes correlation coefficient, so that R(E,P) is the product-moment correlation between %E and %P. Finally, "COV" denotes the covariance between the indicated parameters. The total output for a single truck may be seen in Appendix D. The summary statistics for each vehicle in the CAPE-21 data base are given in Appendix E.

The next step in the process of data analysis was to combine the data for all trucks in a given fuel-type/axle-type category, e.g., Los Angeles 2-axle gas, as discussed below.

## 4.2 CATEGORY ANALYSIS

The primary objective of the cycle-development effort was the production of transient engine and chassis cycles representative of heavy-duty vehicle operating patterns in the urban environment. The cycles developed will be used to measure the emission levels and fuel economy for heavy-duty engines. That application will clearly be simplified if the number of cycles required for testing the spectrum of engine-vehicle combinations can be kept to a small number.

The total number of potential truck-cycle categories represented in the CAPE-21 data base is 24: 2 cities x 2 fuel types x 3 axle types x 2 road types and the number of potential bus-cycle categories is 4: 2 cities x 2 road types. If categories could not be combined, then 56 engine and chassis cycles would be required for testing purposes. Therefore, an analysis of the statistics for the various categories was conducted for the purpose of combining those categories where the operating patterns are similar.

The three parameters of interest were percent power, percent rpm, and vehicle speed; the statistics examined for each parameter were:

a. Mean
b. Median
c. Standard deviation
d. Percent zero speed
e. Percent idle (rpm and vehicle speed only)

Table 8.

SUMMARY STATISTICS FOR LA TRUCK 45: LA TT DIESEL

(RECORD COUNT = 127528, OPERATING TIME = 30.61 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 33902. | 93626. | 127528. |
| MEAN | 95.01 | 40.45 | 54.96 |
| MEDIAN | 98.75 | 17.38 | 77.54 |
| STD DEV | 13.64 | 42.83 | 44.46 |
| % ACCEL | 7.86 | 13.76 | 12.18 |
| % CRUISE | 86.54 | 29.61 | 44.80 |
| % DECEL | 4.83 | 8.45 | 7.49 |
| % IDLE | 0.77 | 48.77 | 35.53 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 26426. | 67457. | 93883. |
| TOTAL N | 33536. | 92194. | 125730. |
| MEAN | 54.38 | 15.94 | 26.76 |
| MEDIAN | 57.76 | 8.79 | 8.07 |
| STD DEV | 24.84 | 26.83 | 31.46 |
| % ACCEL | 21.38 | 10.75 | 13.58 |
| % CRUISE | 36.07 | 53.23 | 48.65 |
| % DECEL | 24.67 | 14.03 | 16.87 |
| % MOTOR | 17.88 | 21.99 | 20.89 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 33536. | 92194. | 125730. |
| MEAN | 40.33 | 8.73 | 17.16 |
| MEDIAN | 47.06 | 0.99 | 9.75 |
| STD DEV | 13.55 | 12.03 | 18.72 |
| % ZERO | 0.34 | 48.85 | 35.91 |
| % ACCEL | 12.52 | 12.04 | 12.17 |
| % CRUISE | 77.48 | 30.93 | 43.34 |
| % DECEL | 9.57 | 7.18 | 7.82 |
| % IDLE | 0.43 | 49.85 | 36.67 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 26535. | 67873. | 94408. |
| E(EXP) | 5233.23 | 1305.72 | 2409.62 |
| E(E)XE(P) | 5209.30 | 458.20 | 1272.75 |
| COV(E,P) | 23.92 | 847.52 | 1136.88 |
| R(E,P) | 0.076 | 0.760 | 0.771 |
| ** N | 33902. | 93626. | 127528. |
| E(SXE) | 3888.47 | 773.83 | 1601.83 |
| E(S)XE(E) | 3812.76 | 357.28 | 943.00 |
| COV(S,E) | 75.72 | 416.55 | 658.83 |
| R(S,E) | 0.408 | 0.808 | 0.795 |
| ** N | 26535. | 67873. | 94408. |
| E(SXP) | 2204.67 | 341.67 | 865.30 |
| E(S)XE(P) | 2201.64 | 115.08 | 443.49 |
| COV(S,P) | 3.03 | 226.59 | 421.81 |
| R(S,P) | 0.009 | 0.700 | 0.691 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

f. Percent cruise
g. Percent acceleration
h. Percent deceleration
i. Percent motoring (power only)

The mean and standard deviation of each statistic were computed from the corresponding statistics for each truck in a given category on an unweighted basis.

For example, the average freeway speeds for the 19 trucks in the Los Angeles 2-axle gas category were summed and divided by 19 (equal weighting for each truck) to yield a mean freeway speed for that category. The standard deviation of those 19 average speeds was also computed. Similarly, the average freeway speeds for, say, the seven trucks in the Los Angeles TT gas category yielded a category mean and standard deviation. The category means can then be compared to determine if the difference is statistically significant.

Category means and standard deviations were computed in this way for each statistic listed above for each parameter. The mean for a given statistic and category was then compared with the corresponding mean for every other category. The difference in means for each category pair was tested with the Aspin-Welch t-test at the 95-percent and 99-percent confidence levels. When a category consisting of a single truck was a member of a category pair, then a z-test was used for testing. Examples of the output obtained are shown in Tables 9, 10, 11, and 12, where S indicates the difference in means to be significant at the indicated confidence level.

The total computer output was forwarded to the EPA where the results of the statistical analysis and the application of engineering judgment were the basis for the selection of the categories to be combined. That effort, together with the computer output, is documented in Reference 7. The categories selected for the development of chassis and engine cycles are shown below, where EC and CC denote engine cycle and chassis cycle, respectively:

| | Freeway | Nonfreeway | Combined |
|---|---|---|---|
| LA Gasoline | EC | EC | |
| LA Diesel | EC | EC | |
| LA Gas & Dsl | CC | CC | |
| NY Gasoline | EC | EC | |
| NY Diesel | EC | EC | |
| NY Gas & Dsl | CC | CC | |
| LA Buses | | | EC, CC |
| NY Buses | | | EC, CC |

## 4.3 COLD/HOT ANALYSIS

To determine if there were a need for a cold-start segment in the composite cycles to be developed for heavy-duty engine emission testing, an analysis of cold/hot operation was conducted on a representative cross-section of CAPE-21

Table 9.

ASPIN-WELCH TEST OF DIFFERENCES BETWEEN MEANS
LA TT GAS VS LA TT DIESEL

| | | FREEWAY | | NON-FREEWAY | | COMBINED | |
|---|---|---|---|---|---|---|---|
| | | 95% | 99% | 95% | 99% | 95% | 99% |
| RPM: | MEAN | S | - | S | S | S | - |
| | MEDIAN | S | - | S | S | S | - |
| | STD DEV | - | - | S | - | - | - |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | - | - | - | - | - | - |
| | % DECEL | - | - | - | - | - | - |
| | % IDLE | - | - | - | - | - | - |
| POWER: | MEAN | S | S | - | - | S | - |
| | MEDIAN | S | S | - | - | - | - |
| | STD DEV | S | S | S | - | S | S |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | S | S | S | - | S | - |
| | % DECEL | - | - | - | - | - | - |
| | % MOTOR | S | S | S | S | S | S |
| SPEED: | MEAN | - | - | - | - | - | - |
| | MEDIAN | - | - | - | - | - | - |
| | STD DEV | S | - | - | - | - | - |
| | % ZERO | - | - | - | - | - | - |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | - | - | - | - | - | - |
| | % DECEL | - | - | - | - | - | - |
| | % IDLE | - | - | - | - | - | - |
| E(EXP): | | - | - | - | - | - | - |
| E(EXS): | | S | - | S | - | - | - |
| E(SXP): | | S | S | - | - | - | - |

Table 10.

ASPIN-WELCH TEST OF DIFFERENCES BETWEEN MEANS

LA 2A GAS VS NY 2A GAS

| | | FREEWAY | | NON-FREEWAY | | COMBINED | |
|---|---|---|---|---|---|---|---|
| | | 95% | 99% | 95% | 99% | 95% | 99% |
| RPM: | MEAN | S | S | S | S | S | S |
| | MEDIAN | S | S | S | S | S | S |
| | STD DEV | - | - | - | - | - | - |
| | % ACCEL | S | S | S | - | - | - |
| | % CRUISE | S | S | S | S | S | S |
| | % DECEL | S | S | - | - | - | - |
| | % IDLE | S | S | S | S | S | S |
| POWER: | MEAN | - | - | S | S | S | S |
| | MEDIAN | - | - | S | S | S | S |
| | STD DEV | S | S | - | - | - | - |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | S | S | - | - | - | - |
| | % DECEL | - | - | S | S | - | - |
| | % MOTOR | S | S | S | - | S | S |
| SPEED: | MEAN | S | S | S | S | S | S |
| | MEDIAN | S | S | S | S | S | S |
| | STD DEV | - | - | S | S | S | S |
| | % ZERO | - | - | S | S | S | S |
| | % ACCEL | S | S | S | S | - | - |
| | % CRUISE | S | S | S | S | S | S |
| | % DECEL | S | S | S | - | - | - |
| | % IDLE | - | - | S | S | S | S |
| E(EXP): | | S | - | S | S | S | S |
| E(EXS): | | S | S | S | S | S | S |
| E(SXP): | | S | S | S | S | S | S |

Table 11.

Z TEST OF DIFFERENCES BETWEEN MEANS
LA 2A DIESEL VS LA 2A GAS

| | | FREEWAY | | NON-FREEWAY | | COMBINED | |
|---|---|---|---|---|---|---|---|
| | | 95% | 99% | 95% | 99% | 95% | 99% |
| RPM: | MEAN | S | S | S | - | S | - |
| | MEDIAN | S | - | S | - | S | - |
| | STD DEV | - | - | S | S | S | S |
| | % ACCEL | S | S | S | - | S | - |
| | % CRUISE | - | - | S | - | - | - |
| | % DECEL | S | S | - | - | S | - |
| | % IDLE | - | - | - | - | - | - |
| POWER: | MEAN | - | - | - | - | - | - |
| | MEDIAN | - | - | - | - | - | - |
| | STD DEV | - | - | S | S | - | - |
| | % ACCEL | S | - | - | - | - | - |
| | % CRUISE | S | - | - | - | - | - |
| | % DECEL | S | - | - | - | - | - |
| | % MOTOR | - | - | S | - | - | - |
| SPEED: | MEAN | - | - | - | - | - | - |
| | MEDIAN | - | - | - | - | - | - |
| | STD DEV | - | - | - | - | - | - |
| | % ZERO | - | - | - | - | - | - |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | - | - | - | - | - | - |
| | % DECEL | - | - | - | - | - | - |
| | % IDLE | - | - | - | - | - | - |
| E(EXP): | | - | - | - | - | - | - |
| E(EXS): | | S | S | - | - | - | - |
| E(SXP): | | - | - | - | - | - | - |

Table 12.

Z TEST OF DIFFERENCES BETWEEN MEANS
NY 3A GAS VS NY TT GAS

| | | FREEWAY | | NON-FREEWAY | | COMBINED | |
|---|---|---|---|---|---|---|---|
| | | 95% | 99% | 95% | 99% | 95% | 99% |
| RPM: | MEAN | - | - | - | - | - | - |
| | MEDIAN | - | - | - | - | - | - |
| | STD DEV | - | - | - | - | - | - |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | - | - | - | - | - | - |
| | % DECEL | - | - | - | - | - | - |
| | % IDLE | - | - | - | - | - | - |
| POWER: | MEAN | - | - | - | - | - | - |
| | MEDIAN | - | - | - | - | - | - |
| | STD DEV | - | - | - | - | - | - |
| | % ACCEL | - | - | - | - | - | - |
| | % CRUISE | - | - | - | - | - | - |
| | % DECEL | - | - | - | - | - | - |
| | % MOTOR | - | - | - | - | - | - |
| SPEED: | MEAN | - | - | - | - | - | - |
| | MEDIAN | - | - | - | - | - | - |
| | STD DEV | - | - | - | - | - | - |
| | % ZERO | - | - | - | - | - | - |
| | % ACCEL | S | - | - | - | - | - |
| | % CRUISE | - | - | - | - | - | - |
| | % DECEL | - | - | - | - | - | - |
| | % IDLE | - | - | - | - | - | - |
| E(EXP): | | - | - | - | - | - | - |
| E(EXS): | | - | - | - | - | - | - |
| E(SXP): | | - | - | - | - | - | - |

vehicles for which reliable temperature data were available. The cold/hot analysis was performed for each of the following truck categories:

1. LA gas
2. LA diesel
3. NY gas
4. NY diesel
5. All LA trucks
6. All NY trucks
7. All gas trucks
8. All diesel trucks
9. All trucks

Each truck start was identified as cold, warm, normal, or hot. That is, based on the temperature distribution for each truck, temperatures $T_1$, $T_2$, and $T_3$ were defined for each truck. If the temperature is T at start-up, then the type of start is defined as follows:

| | |
|---|---|
| $T < T_1$ | Cold start |
| $T_1 \leq T < T_2$ | Warm start |
| $T_2 \leq T < T_3$ | Normal start |
| $T \geq T_3$ | Hot start |

The operation of each vehicle in each category was characterized by matrices, broken down by road type, of delta percent rpm versus percent power and delta speed versus percent power, stratified by temperature range. The matrix data were supplemented by statistics for type of start, which included the number of idles following each type of start, the duration of each idle, and the average speed and distance traveled after each idle and prior to the next idle. Statistics by type of temperature matrix ($M_1$ to $M_{10}$ in Table 13) were also computed to yield the duration, average speed, and distance traveled for the operation in each matrix. Density and distribution functions by type of matrix ($M_1$ to $M_{10}$) were then prepared for the duration, average speed, and distance traveled parameters. Finally, means and standard deviations were computed by matrix and various matrix combinations and t-testing was performed to determine the significance of the differences in the various means of interest.

The complete package of computer output was then forwarded to the EPA for additional analysis. That effort and tables of summary statistics are documented in Reference 8. It was concluded that there did not appear to be significant differences in cold-versus-hot truck operation from a practical engineering point of view. Further, cold operation constituted only 2.3 percent of total operation. On average, the initial idle following a cold start was longer than the idle following the other starts and appeared to impose the only requirement for a cold-start portion of an emission-test cycle.

Table 13. DEFINITION OF COLD/HOT MATRICES

| TYPE OF START | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| COLD START $T < T_1$ | | | | WARM START $T_1 \leq T < T_2$ | | | NORMAL START $T_2 \leq T < T_3$ | | HOT START $T \geq T_3$ |
| Type of Operation | | | | Type of Operation | | | Type of Operation | | Type Of Operation |
| Cold | Warm | Normal | Hot | Warm | Normal | Hot | Normal | Hot | Hot |
| $T < T_1$ | $T_1 \leq T < T_2$ | $T_2 \leq T < T_3$ | $T \geq T_3$ | $T_1 \leq T < T_2$ | $T_2 \leq T < T_3$ | $T \geq T_3$ | $T_2 \leq T < T_3$ | $T \geq T_3$ | $T \geq T_3$ |
| Matrix $M_1$ | Matrix $M_2$ | Matrix $M_3$ | Matrix $M_4$ | Matrix $M_5$ | Matrix $M_6$ | Matrix $M_7$ | Matrix $M_8$ | Matrix $M_9$ | Matrix $M_{10}$ |

## Section 5

## MONTE CARLO CYCLE GENERATION

This section describes the development of the speed and engine matrices upon which cycle generation is based, the Monte Carlo cycle-generation process, the statistical filter which computer-selects cycles representative of the input data base, and the manual process whereby the final selection of candidate cycles is made.

### 5.1 MATRIX DEVELOPMENT

A method of compacting a large volume of data collected on magnetic tape with a fixed-record format is to process any parameter of interest into a matrix of initial value versus final value, where the initial value of the parameter is the value in any given record and the final value is the value in the next record. Each final value then becomes an initial value with respect to the value in the next succeeding record in the sequence. Two types of matrices were developed from the CAPE-21 data base, speed and engine matrices, as discussed below.

#### 5.1.1 Speed Matrix

The speed matrix can be defined as a matrix of initial speed versus final speed. If the speed range is 0 to 60 mph in increments of 1 mph, as in the case of the matrices developed from the CAPE-21 data base, then the dimensions of the matrix will be 61 x 61 and it will consist of 3,721 cells. The speed matrix can be compacted further, however, if a limit is imposed on the maximum change in speed from one record to the next. The speed matrix can then be defined as a matrix of initial speed versus delta speed, where delta speed is the final speed minus the initial speed.

If the delta-speed range is assumed to be -4 to +4, in units of mph/0.864 seconds, and if an increment of 1 mph/0.864 seconds is selected, then the matrix dimensions will be 61 x 9. The number of cells has thus been reduced from 3,721 to 549. Generation of the speed matrices with a digital computer is simple and fast. The tape data files for the trucks or buses in a given category are the data base for the category matrix. Since the data records are sequential on tape, it is easy to pair records. Suppose the records were numbered 1, 2, 3, 4...; Records 1 and 2 constitute the first pair, Records 2 and 3 constitute the second pair, Records 3 and 4 constitute the third pair, etc.

The speed from the first record of a pair is identified as the initial speed and the speed from the second record of the pair minus the initial speed is the delta speed. The content of the speed-matrix cell identified by the initial speed (the row) and the delta speed (the column) is then incremented by 1. All pairs in the sequence are then processed in the same way. The

speed matrix is thus a frequency-of-occurrence type of matrix, as discussed below.

Actually, two speed matrices are developed for the data in each category: a freeway matrix and a nonfreeway matrix. Since the road type is identified in each record, the road-type code is used to increment the proper matrix. The adopted convention was to obtain the road-type code from the first record of each pair.

Finally, two additional procedures were instituted in the development of speed matrices. Since vehicle speeds up to 70 mph were permitted in the editing process, and since chassis dynamometers are usually limited to 60-mph operation, any speed greater then 60 mph was set equal to 60 mph. In addition, any delta speed less than -4.5 or greater than +4.5, in the usual units, was set equal to -4 or +4, respectively. The percentages of cases where speed and delta speed were adjusted are shown in Table 14. The freeway matrix for the combined Los Angeles gas and diesel vehicle-speed data is shown for illustration in Table 15. The total sample size represents approximately 1,015,316 x 0.864 = 877,233 seconds of operating time, or 243.68 hours.

### 5.1.2 Engine Matrix

The engine matrix is defined by an initial pair of percent rpm (%E) and percent power (%P) values versus a final pair of %E and %P values. Because the load factor can change so rapidly in a very short period of time, the power can change from motoring to 100 percent, or the converse, in the time between records. Therefore, any further compacting of the matrix by defining a limit on delta power was not feasible. Analysis of frequency functions of delta rpm indicated that some compaction could be realized, but after consulting with industry, the EPA concluded that there was not sufficient basis for establishing limits. The engine matrix was thus kept in an initial-versus-final format.

%P ranged from 0 percent to 100 percent in increments of 10 percent, plus a motoring class, for a total of 12 classes. %E ranged from -20 percent to +150 percent, in increments of 2 percent, for a total of 87 classes. The dimensions of the engine matrix are thus (87 x 12) x (87 x 12) = 1,044 x 1,044 and the matrix consists of 1,089,936 cells. It is thus not feasible to show an example of an engine matrix. The format of the matrix is shown, however, in Figure 2 of the Summary.

The development of the engine matrices is considerably more complicated than is the case for speed matrices. Because the matrices are too large for the core size of most computers (greater than 4.3 megabytes), it was necessary to store them on disk, keeping just one matrix row in core at any given time.

The values of %E and %P on tape are first indexed by converting them to index values of 1 to 87 and 1 to 12, respectively, and the indexed data set is written to disk. The records are then paired by appending Record 2 to Record 1, Record 3 to Record 2, etc., thus creating a paired data set of double-length records. The record pairs are first sorted with respect to the rpm index of the first record of the pair (the initial rpm value). Then, within each rpm class, the record pairs are sorted with respect to the power index (the initial power value) of the first record of the pair.

Table 14. SPEED-ADJUSTMENT STATISTICS

| CATEGORY | $\Delta S < -4.5$ SET TO -4 (%) | $\Delta S > 4.5$ SET TO 4 (%) | $S > 60$ SET TO 60 (%) |
|---|---|---|---|
| LA 2-Axle Gas | 0.512 | 0.150 | 1.529 |
| LA 3-Axle Gas | 0.638 | 0.157 | 0.146 |
| LA TT Gas | 0.381 | 0.165 | 1.285 |
| LA 2-Axle Diesel | 0.009 | 0.003 | 0.0 |
| LA 3-Axle Diesel | 0.078 | 0.021 | 0.334 |
| LA TT Diesel | 0.074 | 0.013 | 0.557 |
| All LA Trucks | 0.316 | 0.099 | 1.010 |
| NY 2-Axle Gas | 0.511 | 0.274 | 0.259 |
| NY 3-Axle Gas | 0.124 | 0.036 | 0.0 |
| NY TT Gas | 0.166 | 0.021 | 3.338 |
| NY 2-Axle Diesel | 0.075 | 0.034 | 0.0 |
| NY 3-Axle Diesel | 0.212 | 0.071 | 0.322 |
| NY TT Diesel | 0.169 | 0.035 | 0.657 |
| All NY Trucks | 0.346 | 0.162 | 0.554 |
| All Trucks | 0.332 | 0.133 | 0.767 |
| LA Buses | 0.249 | 0.071 | 0.803 |
| NY Buses | 0.286 | 0.042 | 0.0 |
| CAPE-21 Sample | 0.323 | 0.121 | 0.695 |

Table 15.
INPUT INITIAL SPEED VS DELTA SPEED MATRIX
LA COMBINED GAS & DIESEL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 23690 | 349 | 114 | 70 | 43 | 24266 |
| 1 | 0 | 0 | 0 | 464 | 813 | 285 | 129 | 54 | 27 | 1772 |
| 2 | 0 | 0 | 82 | 381 | 1003 | 342 | 144 | 52 | 26 | 2030 |
| 3 | 0 | 50 | 157 | 352 | 1010 | 407 | 149 | 48 | 31 | 2204 |
| 4 | 17 | 44 | 160 | 369 | 923 | 432 | 193 | 74 | 36 | 2248 |
| 5 | 21 | 77 | 170 | 361 | 743 | 428 | 190 | 61 | 29 | 2080 |
| 6 | 36 | 84 | 178 | 359 | 804 | 437 | 190 | 58 | 25 | 2171 |
| 7 | 28 | 79 | 183 | 365 | 958 | 452 | 157 | 56 | 33 | 2311 |
| 8 | 42 | 93 | 150 | 337 | 941 | 490 | 160 | 54 | 28 | 2295 |
| 9 | 69 | 102 | 174 | 321 | 954 | 539 | 148 | 81 | 29 | 2417 |
| 10 | 59 | 78 | 140 | 378 | 1029 | 558 | 172 | 62 | 29 | 2505 |
| 11 | 55 | 93 | 163 | 386 | 1098 | 587 | 156 | 57 | 29 | 2624 |
| 12 | 54 | 96 | 172 | 431 | 1212 | 618 | 185 | 70 | 30 | 2868 |
| 13 | 88 | 91 | 159 | 357 | 1237 | 619 | 176 | 62 | 30 | 2819 |
| 14 | 65 | 94 | 151 | 421 | 1203 | 680 | 173 | 46 | 26 | 2859 |
| 15 | 68 | 91 | 192 | 456 | 1905 | 684 | 186 | 60 | 26 | 3668 |
| 16 | 63 | 104 | 180 | 457 | 1306 | 685 | 179 | 60 | 28 | 3062 |
| 17 | 59 | 90 | 177 | 462 | 1284 | 721 | 222 | 70 | 28 | 3113 |
| 18 | 59 | 110 | 167 | 516 | 1419 | 844 | 231 | 66 | 21 | 3433 |
| 19 | 54 | 91 | 182 | 560 | 3011 | 830 | 196 | 44 | 27 | 4995 |
| 20 | 65 | 99 | 209 | 518 | 3059 | 814 | 185 | 47 | 32 | 5028 |
| 21 | 55 | 111 | 184 | 476 | 2047 | 901 | 193 | 55 | 36 | 4058 |
| 22 | 62 | 91 | 171 | 541 | 3973 | 1002 | 187 | 52 | 21 | 6100 |
| 23 | 47 | 101 | 228 | 594 | 4144 | 995 | 195 | 39 | 31 | 6374 |
| 24 | 67 | 83 | 173 | 623 | 1921 | 1026 | 166 | 43 | 21 | 4123 |
| 25 | 50 | 98 | 220 | 591 | 2297 | 1009 | 162 | 43 | 36 | 4506 |
| 26 | 57 | 85 | 195 | 633 | 3149 | 1132 | 166 | 40 | 22 | 5479 |
| 27 | 57 | 90 | 199 | 802 | 4312 | 1186 | 147 | 33 | 23 | 6849 |
| 28 | 27 | 80 | 199 | 793 | 3337 | 1178 | 126 | 45 | 23 | 5808 |
| 29 | 46 | 98 | 202 | 672 | 2720 | 1156 | 137 | 39 | 28 | 5098 |
| 30 | 44 | 80 | 176 | 710 | 3422 | 1195 | 162 | 45 | 23 | 5857 |
| 31 | 37 | 61 | 204 | 753 | 5030 | 1280 | 166 | 37 | 16 | 7584 |

Table 15.

INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
LA COMBINED GAS & DIESEL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 45 | 77 | 206 | 901 | 4334 | 1363 | 158 | 28 | 14 | 7126 |
| 33 | 47 | 85 | 204 | 920 | 4062 | 1520 | 144 | 34 | 21 | 7037 |
| 34 | 55 | 65 | 229 | 1125 | 5205 | 1718 | 213 | 43 | 11 | 8664 |
| 35 | 40 | 51 | 229 | 1301 | 5781 | 1928 | 191 | 40 | 15 | 9576 |
| 36 | 41 | 64 | 221 | 1293 | 7528 | 1815 | 151 | 39 | 7 | 11159 |
| 37 | 55 | 61 | 241 | 1268 | 7549 | 1732 | 175 | 42 | 7 | 11130 |
| 38 | 63 | 65 | 223 | 1216 | 7160 | 1888 | 196 | 45 | 2 | 10858 |
| 39 | 58 | 64 | 214 | 1368 | 9070 | 1994 | 182 | 42 | 4 | 12996 |
| 40 | 53 | 66 | 262 | 1565 | 10442 | 2124 | 149 | 32 | 6 | 14699 |
| 41 | 49 | 45 | 231 | 1583 | 12463 | 2116 | 124 | 35 | 4 | 16650 |
| 42 | 63 | 58 | 201 | 1659 | 13356 | 2208 | 143 | 39 | 3 | 17730 |
| 43 | 50 | 49 | 185 | 1741 | 12946 | 2511 | 176 | 30 | 1 | 17689 |
| 44 | 56 | 56 | 198 | 1887 | 13586 | 2682 | 151 | 38 | 0 | 18654 |
| 45 | 51 | 60 | 223 | 2059 | 16199 | 2642 | 160 | 33 | 0 | 21427 |
| 46 | 50 | 53 | 218 | 2069 | 18212 | 2880 | 173 | 41 | 0 | 23696 |
| 47 | 56 | 56 | 185 | 2180 | 21799 | 3220 | 185 | 28 | 0 | 27709 |
| 48 | 37 | 46 | 196 | 2523 | 26435 | 3757 | 206 | 27 | 1 | 33228 |
| 49 | 36 | 57 | 215 | 2911 | 31087 | 3835 | 224 | 28 | 0 | 38393 |
| 50 | 41 | 69 | 248 | 3209 | 34733 | 4569 | 284 | 47 | 0 | 43200 |
| 51 | 46 | 55 | 201 | 3696 | 39569 | 5794 | 412 | 31 | 0 | 49804 |
| 52 | 63 | 46 | 291 | 4397 | 46099 | 7038 | 460 | 29 | 1 | 58424 |
| 53 | 46 | 65 | 367 | 5025 | 53932 | 7020 | 356 | 45 | 0 | 66856 |
| 54 | 54 | 65 | 372 | 5040 | 63415 | 6653 | 341 | 18 | 0 | 75958 |
| 55 | 78 | 70 | 294 | 4638 | 66001 | 6947 | 319 | 13 | 0 | 78360 |
| 56 | 68 | 55 | 250 | 4591 | 61520 | 5741 | 229 | 3 | 0 | 72457 |
| 57 | 52 | 47 | 248 | 3414 | 42912 | 2954 | 143 | 2 | 0 | 49772 |
| 58 | 59 | 53 | 169 | 1624 | 24964 | 1497 | 108 | 0 | 0 | 28474 |
| 59 | 42 | 41 | 103 | 1066 | 14901 | 1318 | 0 | 0 | 0 | 17471 |
| 60 | 132 | 63 | 168 | 1078 | 22074 | 0 | 0 | 0 | 0 | 23515 |
| TOTALS | 3037 | 4251 | 11889 | 82786 | 783288 | 115325 | 11195 | 2555 | 990 | 1015316 |

The resulting sorted data set thus consists of record pairs which yield an initial combination of rpm and power from the first record of the pair and a final combination of rpm and power from the second record of the pair. The first row of the matrix is then defined by the indexed pair $(E_1, P_1)$ and the columns are defined by the various pairs $(E_i, P_j)$, $i = 1,2,\ldots,87$ and $j = 1,2,\ldots,12$. The purpose of the sorting can now be seen. All record pairs with the combination $(E_1, P_1)$ in the first record of the pair appear first in the sequence of the sorted data set. The frequencies for each cell of the first row of the matrix are accumulated in core until the power index changes. That row is then written to disk on one track. The next matrix row, defined by the combination $(E_1, P_2)$, is obtained in the same way from sequential pairs and written to a second track. (Writing each matrix row to a separate track greatly simplifies the computer programming.)

When the freeway and nonfreeway matrices have been developed from the data for the trucks in each axle category, they are then written to tape. The axle-category matrices are then combined into the desired vehicle-category matrices and written to tape. For example, the matrices by road type for Los Angeles 2-axle gas, Los Angeles 3-axle gas, and Los Angeles TT gas were combined by matrix addition to yield the freeway and nonfreeway engine matrices for the Los Angeles gas category.

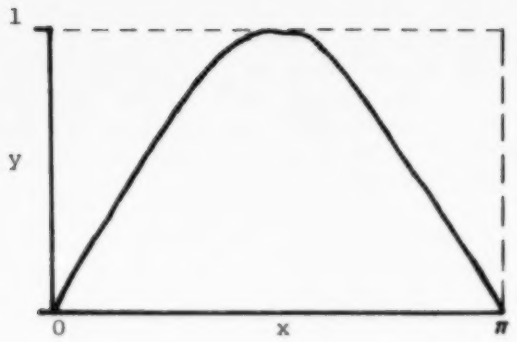
## 5.2 CYCLE-GENERATION PROCESS

The Monte Carlo model used to generate chassis and engine cycles is essentially the same for both types of cycles. That is, the model operates on any input matrix of frequencies of occurrence so that the size and composition of the matrix are essentially irrelevant. The Monte Carlo process will be discussed first, followed by some of the specifics of the development of chassis and engine cycles.

### 5.2.1 The Monte Carlo Technique

The Monte Carlo technique utilizes experimental mathematics and, hence, is mathematically inductive rather than deductive. Monte Carlo methods are concerned with experiments on random numbers and handle problems which can be either probabilistic or deterministic, depending on whether or not they are stochastic (or random) in nature. The solution of a deterministic problem can be illustrated by the determination of the area under one branch of the sine curve $y = \sin x$. Figure 19 describes the problem and its solution with the Monte Carlo technique. If a point were randomly chosen in the square with a heighth of one and a width of $\pi$, the geometric probability that the point would fall on or below the curve $y = \sin x$ is the area under the sine curve divided by the total area $\pi$. Thus, if a sufficiently large number of points is randomly chosen, the product of $\pi$ and the ratio of the number of points falling on or below the curve to the total number of points will converge to the area of interest.

If the area is computed directly by integration, the value will be found to be exactly 2. Table 16 shows the values of area obtained on the computer for the indicated values of N using the Monte Carlo solution. As N increases, the values obtained for the area are seen to be converging toward the true value. Note also that for an N as small as 320, the Monte Carlo value for the




1. Generate random $r_1$ and $r_2$, uniformly distributed on unit interval.
2. Set $x = r_1 \cdot \pi$
3. Compute $y = \sin x$
4. If $r_2 \leq y$, score a hit. Otherwise, score a miss.
5. H = Number of hits
   M = Number of misses
   N = H + M
6. $\Pr(\text{HIT}) \approx \frac{H}{N}$
7. But, $\Pr(\text{HIT}) = \text{AREA}/\pi$
8. $\therefore \text{AREA} \approx \pi \cdot \Pr(\text{HIT}) = \frac{\pi H}{N}$

Figure 19. EXAMPLE OF MONTE CARLO TECHNIQUE: AREA UNDER ONE BRANCH OF SINE CURVE

Table 16. MONTE CARLO COMPUTATION OF AREA UNDER ONE BRANCH OF A SINE CURVE

| N | AREA | PI |
|---|---|---|
| 10 | 1.256637 | 5.000000 |
| 20 | 2.513273 | 2.500000 |
| 40 | 2.120574 | 2.962963 |
| 80 | 2.042034 | 3.076922 |
| 160 | 1.904590 | 3.298968 |
| 320 | 1.992947 | 3.152709 |
| 640 | 2.002765 | 3.137255 |
| 1280 | 2.002765 | 3.137255 |
| 2560 | 2.005219 | 3.133414 |
| 5120 | 1.999083 | 3.143032 |
| 10240 | 2.003991 | 3.135333 |
| 20480 | 1.986197 | 3.163423 |
| 40960 | 2.004528 | 3.134494 |
| 81920 | 1.999274 | 3.142731 |
| 163840 | 2.002247 | 3.138065 |
| 327680 | 2.002218 | 3.138111 |
| 655360 | 1.997990 | 3.144752 |
| 1310720 | 2.001803 | 3.138761 |

area is quite accurate. Of course, if the area is set equal to 2, then the same procedure can be used to generate estimated values for $\pi$, as shown also in Table 16.

The development of heavy-duty test cycles is a probabilistic solution to the problem of obtaining cycles which are representative of the way heavy-duty vehicles are operated. As mentioned above, the cycle-generation technique is independent of the size and composition of the input matrix, requiring only that it be a matrix of frequencies of occurrence for initial versus final values of some parameter(s). To fix ideas, suppose the matrix gives frequencies of occurrence for the number of times a measured parameter P transitions from an initial value $P_i$ to a final (or delta) value $P_j$. Further, consider just the initial value $P_5$ and suppose there are 10 values for the final $P_j$, as illustrated in Figure 20a.

The value $P_5$ transitions to $P_1$ never, it transitions to $P_2$ 5 times, transitions to $P_3$ 13 times, etc. The sum of all frequencies in that row is 100. If each entry in the row is divided by 100, the resultant set of entries shown in Figure 20b gives the probabilities that, given that the initial parameter value is $P_5$, the next value will be as indicated. For example, if the initial value of the parameter is $P_5$, the probability is 0.12 that the next value will be $P_7$. Finally, noting that Figure 20b defines a density function, develop the corresponding distribution function as shown in Figure 20c.

When a distribution function has been computed for each row of the input frequency matrix, the resulting transition-probability matrix is the basis for a Monte Carlo generation of a sequence of values of the parameter P. This is accomplished by generating random numbers which are uniformly distributed on the unit interval (i.e., any number from 0 to 1 is equally likely). Referring again to Figure 2oc, if a random number is generated with the value 0.46, the transition is from $P_5$ to $P_5$. The new initial value is thus the same as the previous one. Let the next random number generated have the value 0.92. Then the transition is from $P_5$ to $P_8$. The new initial value then becomes $P_8$, another random number is generated and compared with the distribution-function values in the row defined by $P_8$, and another final value is obtained. This process continues until the sequence has the desired length.

As already noted, the transition-probability matrix for an engine matrix is too large for display. Table 17, however, shows the transition probability matrix computed from Table 15, the frequency matrix for the combined Los Angeles gas and diesel freeway vehicle-speed data. Note that when the initial speed is zero, as when starting a cycle, the probability of remaining at zero speed is 0.9763. That is a very large probability, implying that in the Monte Carlo process the cycle will be expected to remain at zero speed for a considerable length of time. The problem thus entailed will be discussed below.

### 5.2.2 Development of Chassis-Dynamometer Cycles

The fundamental requirement on the desired chassis cycles is that they be closed; i.e., that th. speeds at each second of time be connected so as to form a cycle which is driveable on the chassis dynamometer. Further, for practical considerations, the cycle should start and end with an idle; i.e., with the vehicle at zero speed. The requirement to start and end each cycle with an idle is easily accomplished, as discussed below. Finally, it is

a. FREQUENCY MATRIX

| | $P_1$ | $P_2$ | $P_3$ | $P_4$ | $P_5$ | $P_6$ | $P_7$ | $P_8$ | $P_9$ | $P_{10}$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_5$ | 0 | 5 | 13 | 16 | 20 | 17 | 12 | 11 | 6 | 0 | ($\Sigma$ = 100) |

b. INTERMEDIATE MATRIX

| | $P_1$ | $P_2$ | $P_3$ | $P_4$ | $P_5$ | $P_6$ | $P_7$ | $P_8$ | $P_9$ | $P_{10}$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_5$ | .00 | .05 | .13 | .16 | .20 | .17 | .12 | .11 | .06 | .00 | (Divide by $\Sigma$) |

c. TRANSITION-PROBABILITY MATRIX

| | $P_1$ | $P_2$ | $P_3$ | $P_4$ | $P_5$ | $P_6$ | $P_7$ | $P_8$ | $P_9$ | $P_{10}$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_5$ | .00 | .05 | .18 | .34 | .54 | .71 | .83 | .94 | 1.0 | 1.0 | (Running Sum) |

Figure 20. MONTE CARLO CYCLE DEVELOPMENT

Table 17.

TRANSITION PROBABILITY MATRIX
LA COMBINED GAS & DIESEL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9763 | 0.9906 | 0.9953 | 0.9982 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.2619 | 0.7207 | 0.8815 | 0.9543 | 0.9848 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.0404 | 0.2281 | 0.7222 | 0.8906 | 0.9616 | 0.9872 | 1.0000 |
| 3 | 0.0 | 0.0227 | 0.0939 | 0.2536 | 0.7119 | 0.8966 | 0.9642 | 0.9859 | 1.0000 |
| 4 | 0.0076 | 0.0271 | 0.0983 | 0.2625 | 0.6730 | 0.8652 | 0.9511 | 0.9840 | 1.0000 |
| 5 | 0.0101 | 0.0471 | 0.1288 | 0.3024 | 0.6596 | 0.8654 | 0.9567 | 0.9861 | 1.0000 |
| 6 | 0.0166 | 0.0553 | 0.1373 | 0.3026 | 0.6730 | 0.8743 | 0.9618 | 0.9885 | 1.0000 |
| 7 | 0.0121 | 0.0463 | 0.1255 | 0.2834 | 0.6980 | 0.8936 | 0.9615 | 0.9857 | 1.0000 |
| 8 | 0.0183 | 0.0588 | 0.1242 | 0.2710 | 0.6810 | 0.8946 | 0.9643 | 0.9878 | 1.0000 |
| 9 | 0.0285 | 0.0707 | 0.1427 | 0.2755 | 0.6703 | 0.8933 | 0.9545 | 0.9880 | 1.0000 |
| 10 | 0.0236 | 0.0547 | 0.1106 | 0.2615 | 0.6723 | 0.8950 | 0.9637 | 0.9884 | 1.0000 |
| 11 | 0.0210 | 0.0564 | 0.1185 | 0.2656 | 0.6841 | 0.9078 | 0.9672 | 0.9889 | 1.0000 |
| 12 | 0.0188 | 0.0523 | 0.1123 | 0.2626 | 0.6851 | 0.9006 | 0.9651 | 0.9895 | 1.0000 |
| 13 | 0.0312 | 0.0635 | 0.1199 | 0.2465 | 0.6853 | 0.9049 | 0.9674 | 0.9894 | 1.0000 |
| 14 | 0.0227 | 0.0556 | 0.1084 | 0.2557 | 0.6765 | 0.9143 | 0.9748 | 0.9909 | 1.0000 |
| 15 | 0.0185 | 0.0433 | 0.0957 | 0.2200 | 0.7394 | 0.9258 | 0.9766 | 0.9929 | 1.0000 |
| 16 | 0.0206 | 0.0545 | 0.1133 | 0.2626 | 0.6891 | 0.9128 | 0.9713 | 0.9909 | 1.0000 |
| 17 | 0.0190 | 0.0479 | 0.1047 | 0.2531 | 0.6656 | 0.8972 | 0.9685 | 0.9910 | 1.0000 |
| 18 | 0.0172 | 0.0492 | 0.0979 | 0.2482 | 0.6615 | 0.9074 | 0.9747 | 0.9939 | 1.0000 |
| 19 | 0.0108 | 0.0290 | 0.0655 | 0.1776 | 0.7804 | 0.9465 | 0.9858 | 0.9946 | 1.0000 |
| 20 | 0.0129 | 0.0326 | 0.0742 | 0.1772 | 0.7856 | 0.9475 | 0.9843 | 0.9936 | 1.0000 |
| 21 | 0.0136 | 0.0409 | 0.0862 | 0.2035 | 0.7080 | 0.9300 | 0.9776 | 0.9911 | 1.0000 |
| 22 | 0.0102 | 0.0251 | 0.0531 | 0.1418 | 0.7931 | 0.9574 | 0.9880 | 0.9966 | 1.0000 |
| 23 | 0.0074 | 0.0232 | 0.0590 | 0.1522 | 0.8023 | 0.9584 | 0.9890 | 0.9951 | 1.0000 |
| 24 | 0.0163 | 0.0364 | 0.0783 | 0.2294 | 0.6954 | 0.9442 | 0.9845 | 0.9949 | 1.0000 |
| 25 | 0.0111 | 0.0328 | 0.0817 | 0.2128 | 0.7226 | 0.9465 | 0.9825 | 0.9920 | 1.0000 |
| 26 | 0.0104 | 0.0259 | 0.0615 | 0.1770 | 0.7518 | 0.9584 | 0.9887 | 0.9960 | 1.0000 |
| 27 | 0.0083 | 0.0215 | 0.0505 | 0.1676 | 0.7972 | 0.9704 | 0.9918 | 0.9966 | 1.0000 |
| 28 | 0.0046 | 0.0184 | 0.0527 | 0.1892 | 0.7638 | 0.9666 | 0.9883 | 0.9960 | 1.0000 |
| 29 | 0.0090 | 0.0282 | 0.0679 | 0.1997 | 0.7332 | 0.9600 | 0.9869 | 0.9945 | 1.0000 |
| 30 | 0.0075 | 0.0212 | 0.0512 | 0.1724 | 0.7567 | 0.9607 | 0.9884 | 0.9961 | 1.0000 |
| 31 | 0.0049 | 0.0129 | 0.0398 | 0.1391 | 0.8023 | 0.9711 | 0.9930 | 0.9979 | 1.0000 |

Table 17.
TRANSITION PROBABILITY MATRIX (CONTINUED)
LA COMBINED GAS & DIESEL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0063 | 0.0171 | 0.0460 | 0.1725 | 0.7807 | 0.9719 | 0.9941 | 0.9980 | 1.0000 |
| 33 | 0.0067 | 0.0188 | 0.0477 | 0.1785 | 0.7557 | 0.9717 | 0.9922 | 0.9970 | 1.0000 |
| 34 | 0.0063 | 0.0139 | 0.0403 | 0.1701 | 0.7709 | 0.9692 | 0.9938 | 0.9987 | 1.0000 |
| 35 | 0.0042 | 0.0095 | 0.0334 | 0.1693 | 0.7730 | 0.9743 | 0.9943 | 0.9984 | 1.0000 |
| 36 | 0.0037 | 0.0094 | 0.0292 | 0.1451 | 0.8197 | 0.9823 | 0.9959 | 0.9994 | 1.0000 |
| 37 | 0.0049 | 0.0104 | 0.0321 | 0.1460 | 0.8243 | 0.9799 | 0.9956 | 0.9994 | 1.0000 |
| 38 | 0.0058 | 0.0118 | 0.0323 | 0.1443 | 0.8037 | 0.9776 | 0.9957 | 0.9998 | 1.0000 |
| 39 | 0.0045 | 0.0094 | 0.0259 | 0.1311 | 0.8290 | 0.9825 | 0.9965 | 0.9997 | 1.0000 |
| 40 | 0.0036 | 0.0081 | 0.0259 | 0.1324 | 0.8428 | 0.9873 | 0.9974 | 0.9996 | 1.0000 |
| 41 | 0.0029 | 0.0056 | 0.0195 | 0.1146 | 0.8631 | 0.9902 | 0.9977 | 0.9998 | 1.0000 |
| 42 | 0.0036 | 0.0068 | 0.0182 | 0.1117 | 0.8650 | 0.9896 | 0.9976 | 0.9998 | 1.0000 |
| 43 | 0.0028 | 0.0056 | 0.0161 | 0.1145 | 0.8463 | 0.9883 | 0.9982 | 0.9999 | 1.0000 |
| 44 | 0.0030 | 0.0060 | 0.0166 | 0.1178 | 0.8461 | 0.9899 | 0.9980 | 1.0000 | 1.0000 |
| 45 | 0.0024 | 0.0052 | 0.0156 | 0.1117 | 0.8677 | 0.9910 | 0.9985 | 1.0000 | 1.0000 |
| 46 | 0.0021 | 0.0043 | 0.0135 | 0.1009 | 0.8694 | 0.9910 | 0.9983 | 1.0000 | 1.0000 |
| 47 | 0.0020 | 0.0040 | 0.0107 | 0.0894 | 0.8761 | 0.9923 | 0.9990 | 1.0000 | 1.0000 |
| 48 | 0.0011 | 0.0025 | 0.0084 | 0.0843 | 0.8799 | 0.9930 | 0.9992 | 1.0000 | 1.0000 |
| 49 | 0.0009 | 0.0024 | 0.0080 | 0.0838 | 0.8935 | 0.9934 | 0.9993 | 1.0000 | 1.0000 |
| 50 | 0.0009 | 0.0025 | 0.0083 | 0.0826 | 0.8866 | 0.9923 | 0.9989 | 1.0000 | 1.0000 |
| 51 | 0.0009 | 0.0020 | 0.0061 | 0.0803 | 0.8748 | 0.9911 | 0.9994 | 1.0000 | 1.0000 |
| 52 | 0.0011 | 0.0019 | 0.0068 | 0.0821 | 0.8711 | 0.9916 | 0.9995 | 1.0000 | 1.0000 |
| 53 | 0.0007 | 0.0017 | 0.0071 | 0.0823 | 0.8890 | 0.9940 | 0.9993 | 1.0000 | 1.0000 |
| 54 | 0.0007 | 0.0016 | 0.0065 | 0.0728 | 0.9077 | 0.9953 | 0.9998 | 1.0000 | 1.0000 |
| 55 | 0.0010 | 0.0019 | 0.0056 | 0.0648 | 0.9071 | 0.9958 | 0.9998 | 1.0000 | 1.0000 |
| 56 | 0.0009 | 0.0017 | 0.0051 | 0.0685 | 0.9176 | 0.9968 | 1.0000 | 1.0000 | 1.0000 |
| 57 | 0.0010 | 0.0020 | 0.0070 | 0.0756 | 0.9377 | 0.9971 | 1.0000 | 1.0000 | 1.0000 |
| 58 | 0.0021 | 0.0039 | 0.0099 | 0.0669 | 0.9436 | 0.9962 | 1.0000 | 1.0000 | 1.0000 |
| 59 | 0.0024 | 0.0048 | 0.0106 | 0.0717 | 0.9246 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 60 | 0.0056 | 0.0083 | 0.0154 | 0.0613 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

desirable that the cycle be representative of the speeds and rates of change of speed of trucks and buses while engaged in their usual activities.

The cycles can be made representative with the Monte Carlo technique if the input matrix is a large sample of the speeds and rates of change of speeds observed in actual heavy-duty vehicle operations. The CAPE-21 data base, of course, yields such input matrices. If the cycle can be shown to be representative of the input data, then it is representative of actual operations.

Figure 21 shows the general logical flow in the development of chassis cycles. The input frequency matrix is entered into the computer from punched cards. The input matrix is row-normalized to get the conditional transition probabilities and is also normalized for other purposes to be discussed in Paragraph 5.3. The transition-probability matrix is then created and a series of initializations accomplished, including the zeroing of core locations which will be used to store a frequency matrix corresponding to the speeds in the cycle to be generated. The initial speed of the cycle at zero time is set to zero. Then a random number is generated and, with reference to the transition-probability matrix, a delta speed is selected. The cycle matrix is then incremented by adding one to the contents of the cell defined by the initial speed of zero and the randomly-selected delta speed. That delta speed is added to the initial speed to create a new (possibly the same) initial speed.

The process continues until a specified minimum cycle duration is reached. That minimum time point is generally taken to be the nominal desired cycle duration minus 1/2 minute. For chassis cycles with a nominal 5-minute duration, the minimum time would be 4.5 minutes or 270 seconds. The EPA had planned initially to consider the interval between each speed in the cycle to be 1 second. The minimum time was reached, therefore, when 270 cycle speeds had been generated. It was subsequently decided to retain the time unit of resolution in the data; i.e., the interval was again taken to be 0.864 seconds. The minimum time for each cycle generated is thus 4.5 x 0.864 = 3.88 minutes. That is why the chassis cycle segments all have durations less than the nominal 5 minutes.

If the speed is nonzero at the minimum-time point, and if the speed is less than or equal to a criterion value (45 mph for nonfreeway cycles and 60 mph for freeway cycles), a deceleration to 0 mph is forced. The forced deceleration is accomplished with the Monte Carlo method using transition probabilities based on deceleration data only. When the cycle is at zero speed, the normal process is resumed until a nonzero speed is randomly selected or the maximum-time point is reached. (The maximum-time point is 5.5 minutes for the nominal 5-minute duration, but the interval considerations discussed above resulted in a value of 4.752 minutes, corresponding to 330 speeds in the cycle.)

Since 60 mph is the maximum possible cycle speed, every freeway cycle will be forced to 0 mph at the minimum-time point if it is not already at 0 mph. If a nonfreeway cycle is at a speed greater than 45 mph at the minimum-time point, the process continues until a speed of 45 mph or less is generated or the maximum-time point is reached. In the latter case, the cycle is abandoned and initialization is accomplished in preparation for generation of the next cycle. Otherwise, the deceleration to 0 mph is forced and the process

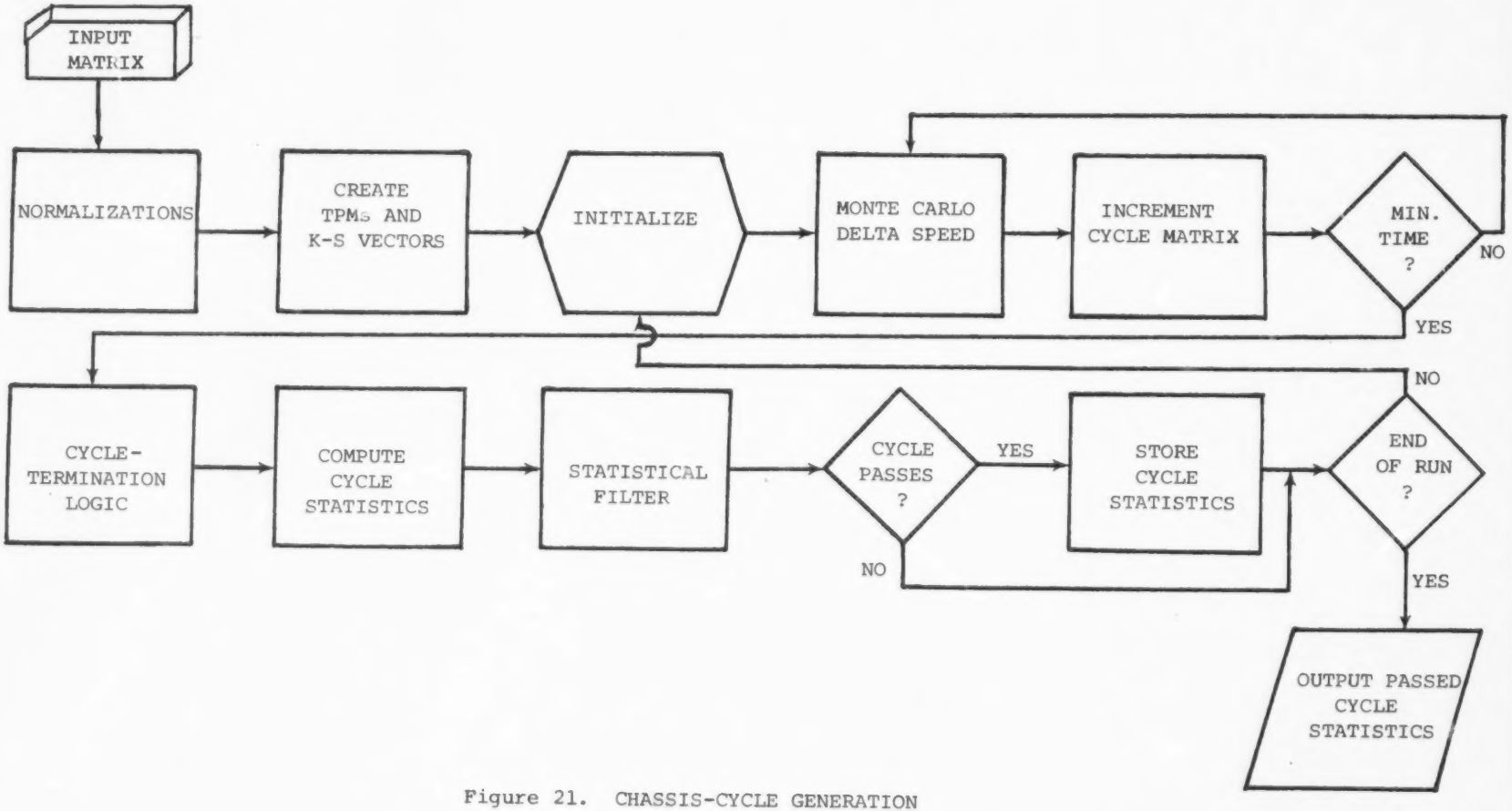



Figure 21. CHASSIS-CYCLE GENERATION

continues as described above. However, if the maximum-time point is reached before a return to zero speed, the cycle is abandoned.

If the cycle has terminated with an idle prior to or at the maximum-time point, a number of statistics used to describe the cycle are computed and compared with the corresponding statistics for the input data. That procedure, referred to as the statistical filter, is a determination of whether the cycle can be said to be representative of the input data and is discussed fully in Paragraph 5.3. If the cycle passes through the filter (i.e., is a candidate representative cycle), the statistics for the cycle are printed. If not, the cycle and the statistics are abandoned. In either case, a test is made to determine if an input number of cycles (usually 10,000) has been generated. If so, the program returns to the initialization point; otherwise, the job terminates.

At this point it must be noted that the random numbers generated are really psuedo-random numbers. That is, for a given starting number, the random-number generator will always generate the same sequence of numbers because the mathematical operations are fixed. That is why, of course, they are called psuedo-random numbers. This attribute of the random-number generator is most advantageous, however. The starting random number (an integer of up to 10 digits which is later converted to a value on the unit interval) for each cycle passing through the statistical filter is printed along with the cycle statistics. The cycle is then regenerated with another computer program which outputs the complete cycle schedule. Cycle schedules thus need be generated only for selected candidate cycles.

Consider again the data of Table 17. As already noted, if the initial speed is zero, as at the start of the cycle, the probability of staying at that speed is very large. From Table 15, however, only 23,690 speeds out of the total frequency of 1,015,316 are at 0 mph. That is, only 2.33 percent of the total operation is at idle. Therefore, a representative cycle should have about that same percentage of zero speeds. Because of the large probability that the cycle will remain at zero speed for considerable periods of time, a cycle would very rarely have the desired percentage of idle operation. Thus, whenever an input matrix has a small idle percentage, there is a problem.

The solution is to constrain the initial idle time, force an initial acceleration, and constrain the final idle time. Since the nominal cycle duration is to be 5 minutes, or about 300/0.864 = 347 speeds in the schedule, the total number of idle speeds should be about 2.33 percent of 347 or 8. Therefore, the initial and final idles are constrained to four zero speeds each. After the initial idle, an acceleration is forced until the average speed for the input data or a specified (input) minimum time is reached, whichever occurs first. The forced acceleration is accomplished with the Monte Carlo method using a transition-probability matrix based just on the input acceleration data.

### 5.2.3 Development of Engine-Dynamometer Cycles

The Monte Carlo logic for generating engine cycles is essentially the same as that used for chassis cycles, as evidenced by the generalized flow diagram of Figure 22. The input matrix is read from tape to disk, not core, because of its large size (1,044 x 1,044). Various normalizations are performed

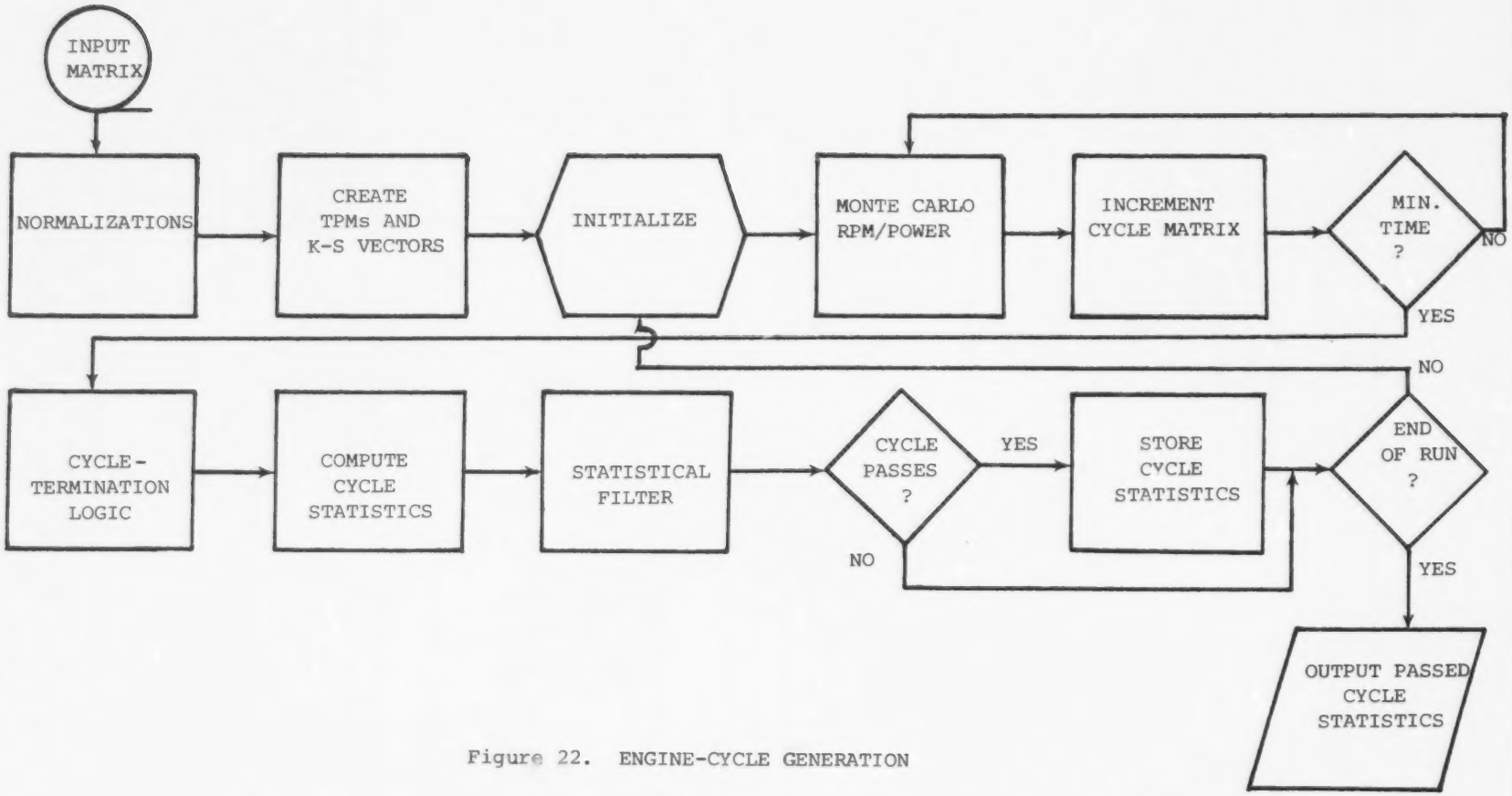



Figure 22. ENGINE-CYCLE GENERATION

which create 1) the transition-probability matrices for generating the cycle and forcing the initial "acceleration" (if required) and the final "deceleration" (or "acceleration" when %E is less then zero); and 2) the vectors required for the statistical filtering of the cycles, as discussed in Paragraph 5.3.

Initialization of the various cycle parameters is then accomplished, including zeroing the disk area where each cycle matrix is stored. Each cycle is started at the idle condition, where idle is defined as %E = %P = 0. If the idle percentage is not very large, as on the freeway, then the initial and final idle times are constrained in the same way as for chassis cycles. When the initial idle is constrained, an initial acceleration is forced for an input length of time (usually about 9 seconds), or until percent rpm is greater than or equal to the average percent rpm for the input matrix. Otherwise, the Monte Carlo process continues in the usual way from cycle start. The cycle matrix is incremented by one, of course, each time an rpm/power combination is randomly selected.

When a minimum cycle duration time is reached (4.5 minutes for 5-minute cycles), cycle-termination logic is initiated. If the cycle is in the idle state (%E = %P = 0) and the initial idle is not constrained, the process continues until a nonidle condition is reached. If the final idle is to be constrained (i.e., whenever the initial idle is constrained), the cycle matrix is incremented by the proper count and the process stops. If the cycle is not in the idle state at the minimum time, then a deceleration to idle is forced when $\%E > 0$ and an acceleration to idle is forced when $\%E < 0$. If the final idle is unconstrained, random selection continues until a nonidle state is reached. If the final idle is constrained, the cycle matrix is incremented with the desired count.

The various cycle statistics are then computed and tested in the statistical filter. If the cycle passes the tests, the statistics are stored for printing at the end of the job. The program then branches back to the point where initialization is accomplished in preparation for generating another cycle. The run ends when an input total number of cycles (usually 500) has been generated or when a sufficient number (usually 10) of cycles has passed the filter tests, whichever occurs first.

## 5.3 STATISTICAL FILTER

The Monte Carlo technique generates cycles in which each speed (chassis cycles) or rpm/power pair (engine cycles) is randomly selected in accordance with its proportional frequency of occurrence in the input data. Each cycle is thus a sample taken from a population of input data which, in turn, is a sample of the population of all truck (and bus) operating data. If the cycle had a very long duration, say several hundred hours, one would expect it to be a very representative sample of the input data. When the cycle is a small sample, however, most of the cycles generated cannot be expected to be representative.

It is thus necessary to define cycle representativeness in terms of statistics which can be computed and compared for what will henceforth be considered the population (input data) and the sample (cycle). Two kinds of statistics were used to test for representative cycles: engineering measures

such as average speed or percent idle and statistical significance testing. The use of the engineering measures assures us that the cycle has the attributes of the input data and the significance testing allows us to quantify our confidence that the cycle is representative.

As described above, the data for every chassis and engine cycle generated were put into the same matrix format as that for the input data. Determination of the degree to which a cycle can be said to be representative is thus made equivalent to the determination of how "similar", in some sense, the input and cycle matrices are. All of the statistics tested are, therefore, computed from the matrices.

The engineering type of statistics computed for chassis cycles were as follows:

1. Average speed
2. Percent time idling
3. Percent time cruising (does not include idle)
4. Percent time accelerating
5. Percent time decelerating

The corresponding statistics for engine cycles fall into three categories as follows:

Power Statistics

1. Average percent power
2. Percent time motoring
3. Percent time at %P = 0
4. Percent time cruising (does not include motoring and %P = 0)
5. Percent time accelerating
6. Percent time decelerating

RPM Statistics

1. Average percent rpm
2. Percent time at %E = 0
3. Percent time cruising (does not include %E = 0)
4. Percent time accelerating
5. Percent time decelerating

Matrix Statistics

1. Percent time idling (%E = %P = 0)
2. Percent time on matrix diagonal
3. Percent time in upper matrix (above diagonal)
4. Percent time in lower matrix (below diagonal)

The terms cruising, accelerating, and decelerating in the above lists refer to the change of state from an initial value on a given record to the final value on the very next record. Those percentages thus refer to short-term operating data. For example, if a speed sequence were 25, 26, 25, 26, 25, 26, then the vehicle is said to be accelerating and decelerating throughout the sequence, although, from a long-term point of view, it is cruising at 25.5 mph.

The primary test used to evaluate cycles is the K-S one-sample test. The K-S one-sample test is concerned with the extent of agreement between the distribution function for a set of sample values (observed values) and a specified theoretical distribution function. It assesses whether the sample values can reasonably be considered to have come from a population having the theoretical distribution of the parameter of interest. The test consists of determining the absolute value of the maximum difference between the sample and theoretical distribution functions. The K-S test is thus a nonparametric or distribution-free test.

Let X be a random variable with the continuous distribution function

$$F(x) = \text{Prob } (X \leq x),$$

and let $X_1 \leq X_2 \leq \ldots \leq X_n$ be a sample of size n for X. Define the empirical distribution function $F_n(x)$ by

$$F_n(x) = \begin{cases} 0 \text{ for } x < X_1 \\ \frac{j}{n} \text{ for } X_j \leq x < X_{j+1}, \; j = 1,2,\ldots,n-1 \\ 1 \text{ for } x \geq X_n. \end{cases}$$

In 1933 Kolmogorov introduced the statistic

$$D_n = \text{l.u.b.} \left| F(x) - F_n(x) \right|,$$

which measures the greatest absolute difference between F(x) and $F_n(x)$. $D_n$ is thus a random variable whose distribution depends on n, but which is independent of the particular form of F(x), requiring only that F(x) be continuous.

The probability distribution of $D_n$ derived by Kolmogorov is given by the relationship

$$\lim_{n \to \infty} \text{Prob } D_n \leq \frac{z}{\sqrt{n}} = L(z),$$

where

$$L(z) = 1 - 2 \sum_{j=1}^{\infty} (-1)^{j-1} \exp(-2j^2 z^2) \qquad (5\text{-}1)$$

$$= \sqrt{2\pi}\, z^{-1} \sum_{j=1}^{\infty} \exp\left[ -(2j-1)^2 \pi^2 / 8z^2 \right]. \qquad (5\text{-}2)$$

A corresponding result for a two-sample test was shown by Smirnov in 1939. Suppose $F_m(x)$ and $G_n(x)$ are the empirical distribution functions for two samples, with sizes m and n, respectively, of mutually-independent random variables with a common continuous distribution function. Define the random variable $D_{m,n}$ by

$$D_{m,n} = \text{l.u.b.} \left| F_m(x) - G_n(x) \right| .$$

Set

$$N = \frac{m\,n}{m + n}$$

and suppose that $m \longrightarrow \infty$ and $n \longrightarrow \infty$ so that

$$\frac{m}{n} \longrightarrow k,$$

for k a constant. The probability distribution of $D_{m,n}$ is then given by

$$\lim_{n\to\infty} \text{Prob} \left\{ D_{m,n} \leq \frac{z}{n} \right\} = L(z), \qquad (5\text{-}3)$$

where L(z) is the same function as in (5-1) and (5-2).

A unified treatment of these results was given by Feller in 1948 (Reference 9*). A table of values of L(z) will be found in Reference 10.

In the application of the K-S test to the determination of cycle representativeness, it was assumed that the distribution function for the input data was continuous and the one-sample test was used. Note, however, that if m is the cycle sample size, and if n is the input data size, then m is very much smaller than n. Thus, if m = 347 (a 5-minute cycle) and n = 1,015,316 (the sample size for Los Angeles gas and diesel freeway data), then

$$N = \frac{mn}{m+n} = \frac{(347)(1,015,316)}{347 + 1,015,316} = 346.88.$$

That is, the equivalent N for the two-sample case is here essentially equal to the sample size in the one-sample case. Thus there is negligible error in the approach used here versus the alternative two-sample approach.

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*The reference contains a misprint in Eq. (1.4): $-v^2\ z^2$ should be $-2v^2\ z^2$.

Before discussing the details of the application of the K-S test to cycle testing, a few more observations will be made. First, the K-S test is usually applied by determining if $D_n$ is greater than a criterion value, $D_c$, given by

$$D_c = \frac{z}{n},$$

where z is a number depending on the significance (probability) level selected, and n is the sample size. For example, if the significance level is 0.05, then z = 1.36. For a sample of size 347,

$$D_c = \frac{1.36}{\sqrt{347}} = 0.073.$$

The test is made on the null hypothesis, or the hypothesis that the sample has the specified theoretical distribution. In the example, if $D_n > 0.073$, then one concludes that the null hypothesis must be rejected at the 0.05 significance level. That is, if the sample has the specified distribution, then the probability that $D_n$ would be larger than 0.073 is less than 0.05.

For the purpose of comparing candidate cycles, however, it is preferable to compute the desired probabilities directly. Fortunately, the two summations for L(z) given in (5-1) and (5-2) converge rapidly. Note first, however, that the probability of interest is

$$\text{Prob } (D_n > D_c) = \text{Prob}\left(D_n > \frac{z}{\sqrt{n}}\right) = 1 - L(z) \qquad (5\text{-}4)$$

for testing the null hypothesis. If the significance level is denoted by $\alpha$, and if we set $z = D_n\sqrt{n}$, then $\alpha$ may be computed directly as follows:

1. $\underline{z \geq 2}$

   $\alpha = 2 \exp\ (-2z^2)$

2. $\underline{1.3 \leq z < 2}$

   $\alpha = 2\left[\exp\ (-2z^2) - \exp\ (-8z^2)\right]$

3. $\underline{z < 1.3}$

   Let max $j = \left[2z + 1\right]$, where the brackets indicate greatest integer. Then,

$$Q = 1 - 2 z^{-1} \sum_{j=1}^{\max j} \exp - (2j-1)^2 2^2/8z^2$$

(Note that the maximum number of terms required is three.)

Cases 1 and 2 are based on (5-1) and Case 3 comes from (5-2), all cases demonstrating the rapid convergence of the summations.

The distribution functions required for the K-S test are computed from the input matrix and the cycle matrix. To illustrate the procedure, suppose the matrix is the small 5 x 5 matrix shown in Table 18a. The matrix is first normalized by dividing the frequency in each cell by the total matrix frequency, as shown in Table 18b. A running sum of these normalized values is then obtained, cell by cell, from top to bottom (simply because the computer is more efficient that way) and then from left to right in the case of speed matrices. The distribution functions in the case of the engine matrices are created row-by-row. The result is shown in Table 18c.

The problem of comparing the cycle matrix with the input matrix is thus transformed into the comparison of two distribution functions. The K-S test, of course, was designed for just that purpose. Further, the test of the null hypothesis (i.e., that the matrices are not significantly different) is based on the probability defined by (5-4).

Suppose the selected significance level is 0.05 and the computed probability is less than that value, say 0.04; then the null hypothesis would be rejected, even though there is a 4-percent chance that it is true. If the hypothesis is rejected when it is true, a Type I error is committed. In the present application, a Type I error is committed when a representative cycle is rejected. Occurrences of Type I errors are thus not serious, resulting only in some inefficiency in the cycle-generation process, since a greater number of cycles must be generated to obtain a given number of representative candidate cycles.

The Type II error, acceptance of the hypothesis when it is false, is here the acceptance of a cycle which is not representative. Type II errors must, therefore, be avoided. Unfortunately, there is no feasible way to compute Type II error probabilities for the K-S test. However, if the Type I error probability is allowed to become larger, then the Type II error probability, $\beta$, will become smaller. For example, if the two distribution functions are almost identical ($D_n$ close to zero), the Type I error probability is close to 1 and the Type II error probability would be expected to be quite small. Therefore, the criterion K-S significance level (Type I error probability) is set at as large a value possible commensurate with a reasonable chance of getting candidate cycles through the statistical filter.

The cycles are actually tested with four K-S tests. Chassis cycles are tested against the input speed matrix with distribution functions computed for the complete matrix and for the submatrices consisting of cruises only (the zero-delta-speed column), accelerations only (the positive delta-speed columns), and decelerations only (the negative delta-speed columns). Similarly, engine cycles are tested with distribution functions for the complete matrix and the

Table 18. DEVELOPMENT OF K-S DISTRIBUTION FUNCTION FOR MATRIX

A. Frequency Matrix

| | | | | | |
|---|---|---|---|---|---|
| 0 | 5 | 2 | 1 | 2 | |
| 2 | 7 | 5 | 3 | 3 | |
| 2 | 5 | 1 | 6 | 4 | (N = 100) |
| 1 | 13 | 12 | 3 | 1 | |
| 5 | 10 | 5 | 2 | 0 | |

B. Normalized Matrix

| | | | | |
|---|---|---|---|---|
| 0 | .05 | .02 | .01 | .02 |
| .02 | .07 | .05 | .03 | .03 |
| .02 | .05 | .01 | .06 | .04 |
| .01 | .13 | .12 | .03 | .01 |
| .05 | .10 | .05 | .02 | 0 |

C. Distribution Function

| | | | | |
|---|---|---|---|---|
| 0 | .15 | .52 | .76 | .92 |
| .02 | .22 | .57 | .79 | .95 |
| .04 | .27 | .58 | .85 | .99 |
| .05 | .40 | .70 | .88 | 1.00 |
| .10 | .50 | .75 | .90 | 1.00 |

submatrices consisting of the diagonal only, the upper matrix (the triangular matrix above the diagonal), and the lower matrix (the triangular matrix below the diagonal). The submatrix testing was performed for the purpose of providing additional assurance that the candidate cycles were representative.

The desired criterion significance level was $\alpha$ 0.05. Thus a cycle will pass through the statistical filter only when each of the four K-S tests satisfies the criterion. When dealing with freeway matrices, however, even when the initial and final idles are constrained, smaller values of $\alpha$ must sometimes be used to enable at least a few cycles to satisfy the criterion. It is conjectured that this problem may stem from the fact that the relative occurrence of zero delta speeds is higher on the freeway than on nonfreeway roads. Thus, when the cycle is constrained with an initial acceleration to approximately the average speed of the input freeway data (in order to satisfy the idle criterion), the cycle speeds tend to remain high because of the higher cruise percentages. The short 5-minute segment thus does not permit an adequate sampling of the data of the input matrix. A definitive explanation of the phenomenon must, however, await further study.

In addition to the four K-S tests, chassis cycles were tested in the statistical filter against average speed and percent idle. The desired criteria are: cycle average speed within 1 mph of the input and percent idle within 2 percent of the input percentage (i.e.; if the input percent idle is 10 percent, percent idle for the cycle must be in the range of 8 percent to 12 percent). The percent cruise, acceleration, and deceleration measures were not part of the computerized statistical filter, but they were utilized in the manual selection of the three candidate cycles submitted to the EPA, using the 2-percent criterion wherever possible.

Engine cycles were tested in the statistical filter with the four K-S tests described earlier. In addition, the mean values of %E and %P and the value of percent idle were required to be within a criterion value of the means for the input. The input criteria were variable, depending again on how difficult it was to get cycles through the filter for a given category. The desired criteria were as given for the chassis cycle: $\alpha$ 0.05 and $\pm$2 percent on the percentage measures. Difficulty with these criteria was encountered for engine cycles in the Los Angeles freeway gas and, to a lesser extent, New York freeway gas categories. Difficulty with chassis cycles was encountered with the freeway matrices in both cities, but the problem was most severe in the case of Los Angeles.

It must be clearly noted that the tests built into the statistical filter define what is meant by the term "representative". If a different set of tests were used, one would expect that some cycles passed by the present filter would not pass the new filter. For example, after the candidate chassis cycles were submitted to EPA, two new K-S tests were defined and used to filter. These tests were made on the speed distribution function (obtained from the speed matrix row sums) and the delta-speed distribution function (obtained from the column sums). An experiment was conducted which revealed that some cycles which had speed distributions very similar to the input tested poorly on the K-S test for the overall matrix, and conversely.

It should be noted that if the input speed matrix is normalized by dividing each cell frequency by the total matrix frequency, then the normalized matrix

is the joint probability function of speed and delta speed. The density function of speed is given by the row sums and the column sums yield the delta-speed density function. The speed and delta-speed density functions are thus the marginal densities. If speed and delta speed were statistically independent, then the matrix product of the speed density function (a column matrix) and the delta-speed density function (a row matrix) would yield their joint probability function (the normalized speed matrix). This is, let the speed density function be given by $f_i$, $i = 1,2,\ldots, 61$ and let the delta-speed density function be given by $g_j$, $j = 1,2,\ldots, 9$. If $p_{ij}$ denotes the joint probability function, then $p_{ij} = f_i g_j$. It would thus be sufficient to perform K-S tests on the marginal distributions only. Speed and delta speed are not independent variables, of course, and that is why the four K-S tests on the matrix and submatrices are performed. Supplementing the four matrix K-S tests with K-S tests on the marginal distributions will, however, increase our confidence that cycles passing all six K-S tests are representative.

Work performed subsequent to submittal of the candidate chassis cycles shows that computation of the K-S significance levels by creating the distribution functions on a row-by-row basis for the total matrix yields values which correlate well with those for the speed distribution function. If the cycles are filtered, however, using the row-by-row approach, then the probability of getting a representative cycle is reduced from that of the column-by-column approach. The cycles which do get through the filter with the row-by-row approach will, however, have a high probability of satisfying the K-S criterion for the speed distribution function.

In the case of engine matrices, the marginal distributions for rpm and power are essentially the same whether developed from the matrix columns or the matrix rows. That is, the engine matrices are of the initial-versus-final type so that corresponding row sums and column sums are essentially the same, any differences being insignificant. That distributional symmetry is lost, of course, in the initial-versus-delta type of matrix used to generate chassis cycles.

Thus, if more and more tests are added, one could say with greater confidence that a cycle passing every one of them could be said to be representative. One could, therefore, test 20 characteristic statistics, say, to ensure that the cycles are representative. However, as more and more tests are added to the filter, the probability that a cycle can pass all of them becomes smaller and smaller. As a result, inordinately large numbers of cycles must be generated and tested in order to get even one cycle through the filter, and even that event would not be certain.

Efficient Monte Carlo cycle generation thus requires keeping the number of tests built into the statistical filter be kept relatively small or dropping the requirement that every test be passed. It is, therefore, necessary to characterize carefully those attributes of operational data which appear to reflect best what one means by representativeness in a cycle. Additional research is indicated here for the purpose of characterizing cycle representativeness in terms of relevant operational parameters and developing an optimized set of statistical filter tests. Nonetheless, it is considered that the statistical filter used to select candidate heavy-duty vehicle cycles for the present program does, in fact, select representative cycles, when the stipulated criteria are applied.

## 5.4 CANDIDATE-CYCLE SELECTION

The statistical filter performs the first step in the selection of candidate cycles by passing a small number of the thousands of cycles which are generated. It sometimes happens that no cycles are selected by the filter. In that event, either another run is made, the criteria for selection are relaxed, or some tests are deleted from the filter. The choice made is a function of schedule and remaining budget. In any case, some cycles passing through the filter are ultimately available for inspection and selection of three per category to be submitted to the EPA.

When more than three cycles for a data category passed through the filter, a manual selection procedure was required to pick the most representative three cycles. The selection was based on the tests built into the filter and the additional percentage measures which are computed and printed. The selection criteria for chassis cycles, listed in decreasing order of importance, are:

1. K-S tests
   a. Overall matrix
   b. Cruise submatrix
   c. Acceleration and deceleration submatrices
2. Average speed
3. Percent idle
4. Percent cruise, acceleration, and deceleration.

As a rule, chassis cycles which pass the K-S tests at the desired significance levels yield average speeds and percent idles which are within the desired values (±1 mph and ±2 percent, respectively). The correlation between the K-S significance levels and the corresponding percentage measures is not, however, always as good as might be expected. For example, a cycle can pass the K-S test for the acceleration submatrix at the 0.20 significance level (which is very good), and yet be 4 percent different from the input on the percent-acceleration statistic. In general, however, cycles are found which pass the K-S tests and also have percentage-measure values close to those for the input.

The primary criteria for candidate cycle selection are the K-S tests because they provide quantitative measures of significance. The K-S test on the overall matrix is considered to be the most important and would be the selected criterion if the statistical filter consisted of a single test. The K-S test for cruise is next in importance because of the relatively large data frequency for the cruise submatrix.

The assignment of the significance level at which each cycle is said to pass is quite conservative. For example, suppose a cycle passed at the 0.20 significance level for the overall matrix, the cruise submatrix, and the acceleration submatrix, but passed at the 0.03 level for the deceleration submatrix. The cycle would then be deemed to pass at the 0.03 significance level, or the lowest level for the set of four K-S tests.

To illustrate the selection of candidate chassis cycles, suppose three of the following eight cycles with the inidcated K-S significance levels must be selected.

| | K-S OVERALL | K-S CRUISE | K-S ACCEL | K-S DECEL |
|---|---|---|---|---|
| Cycle 1 | 0.20 | 0.20 | 0.20 | 0.20 |
| Cycle 2 | 0.20 | 0.10 | 0.05 | 0.15 |
| Cycle 3 | 0.20 | 0.02 | 0.20 | 0.20 |
| Cycle 4 | 0.20 | 0.15 | 0.02 | 0.10 |
| Cycle 5 | 0.20 | 0.05 | 0.10 | 0.02 |
| Cycle 6 | 0.20 | 0.05 | 0.05 | 0.05 |
| Cycle 7 | 0.15 | 0.10 | 0.20 | 0.15 |
| Cycle 8 | 0.05 | 0.10 | 0.20 | 0.20 |

It is immediately clear that Cycles 1, 2, 6, 7, and 8 are candidates for selection since each is at the 0.05 level or higher. Cycle 1 is obviously the best cycle since it is the only one to pass at the 0.20 significance level. No cycle passes at the 0.15 level, but Cycle 7 passes at the 0.10 level and is thus selected as the second candidate, even though Cycle 6 is at the 0.20 level for the overall matrix. The last cycle is to be selected from Cycles 2, 6, and 8. Since Cycles 2 and 6 are both at the 0.20 level for the overall matrix, the remaining tests provide the basis for selection of one of those two. Cycle 2 will thus be the choice for the third candidate cycle because the cruise and deceleration K-S values are better than those for Cycle 6. In the case where two cycles have both passed at exactly the same K-S test levels, then a choice between them would be based on which cycle had average speed and percent idle, cruise, acceleration, and deceleration values closest to the corresponding input data values.

The selection criteria for engine cycles, listed in decreasing order of importance, are:

1. K-S tests
   a. Overall matrix
   b. Diagonal submatrix
   c. Upper and lower submatrices
2. Average %E and %P
3. Percentage measures
   a. Matrix
   b. Power and rpm.

The percentage measures are those defined in the previous section and their correlation with the K-S tests is again not always as good as might be expected. For example, one engine cycle that passed the K-S test for the upper submatrix at just the 0.01 level had a percent frequency for the upper submatrix just 1 percent different from the input. In general, however, cycles with large K-S significance levels tended to have percentage measures resaonably close to those for the input matrix. The procedure for selecting the three candidate engine cycles per category is essentially as described for chassis cycles. The primary difference lies just in the much larger number of statistics computed for engine cycles than for chassis cycles.

The candidate cycles, selected on the basis of statistical analysis, were forwarded to the EPA where additional engineering analysis was performed. The procedures utilized by the EPA to create composite cycles from the submitted cycle segments are documented in References 11, 12, and 13.

## REFERENCES


1. Wilbur Smith and Associates," Heavy-Duty Vehicle Driving Pattern and Use Survey/Final Report Part I - New York City", APTD-1523, May 1973.

2. Wilbur Smith and Associates, "Heavy-Duty Vehicle Driving Pattern and Use Survey/Final Report Part II - Los Angeles Basin", EPA-46013-75-005, February 1974.

3. "Truck Driving Pattern and Use Survey/Phase II Final Report, Part 1", EPA-460/3-77-009, June 1977.

4. Leroy Higdon, "Truck Driving Pattern and Use Survey/Phase II, Part 2, Los Angeles", EPA Technical Report HDV 78-03, May 1978.

5. Leroy Hidgon, "Engine Horsepower Modeling for Gasoline Engines", Technical Support Report for Regulatory Action, HDV 76-04, December 1976.

6. Chester J. France, "Engine Horsepower Modeling for Diesel Engines," Technical Support Report for Regulatory Action", Technical Support Report for Regulatory Action", HDV 76-03, October 1976.

7. Chester J. France, "Category Selection for Transient Heavy-Duty Chassis and Engine Cycles", Technical Support Report for Regulatory Action, HDV 78-01, May 1978.

8. Chester J. France, "Analysis of Hot/Cold Cycle Requirements for Heavy-Duty Vehicles", EPA Technical Report HDV 78-05, June 1978.

9. W. Feller, "On the Kolmogorov-Smirnov Limit Theoreues for Empirical Distributions", Annals of Mathematical Statistics, Vol. 19 (1948), pp 177-189.

10. N. Smirnov, "Table for Estimating the Goodness of Fit of Empirical Distributions", Annals of Mathematical Statistics, Vol. 19 (1948), pp 279-281.

11. Tad Wysor and Chester J. France, "Selection of Transient Cycles for Heavy-Duty Vehicles", EPA Technical Report HDV 78-02, June 1978.

12. Chester J. France, "Transient Cycle Arrangement for Heavy-Duty Engine and Chassis Emission Testing", EPA Technical Report HDV 78-04, June 1978.

# Appendix A

## CHASSIS AND ENGINE CYCLES PLOTTED WITH 0.864-SECOND INTERVAL



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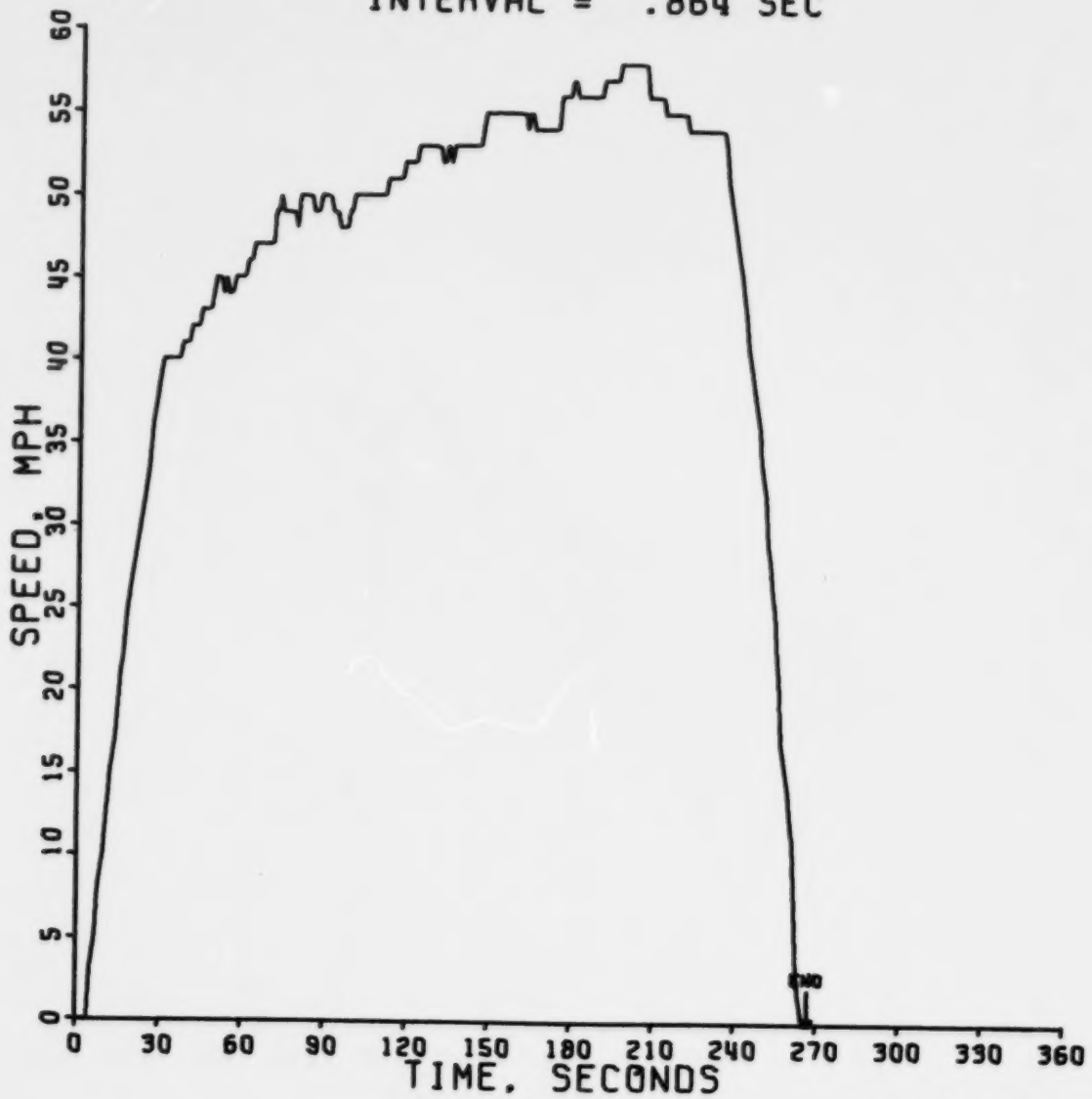
DRIVING CYCLE WITH STARTING
RANDOM NUMBER 1539135071

DATA BASE: LA GAS + DIESEL
FREEWAY

AVERAGE SPEED = 44.79 MPH
DURATION = 4.46 MIN
DISTANCE = 3.33 MILES
INTERVAL = .864 SEC



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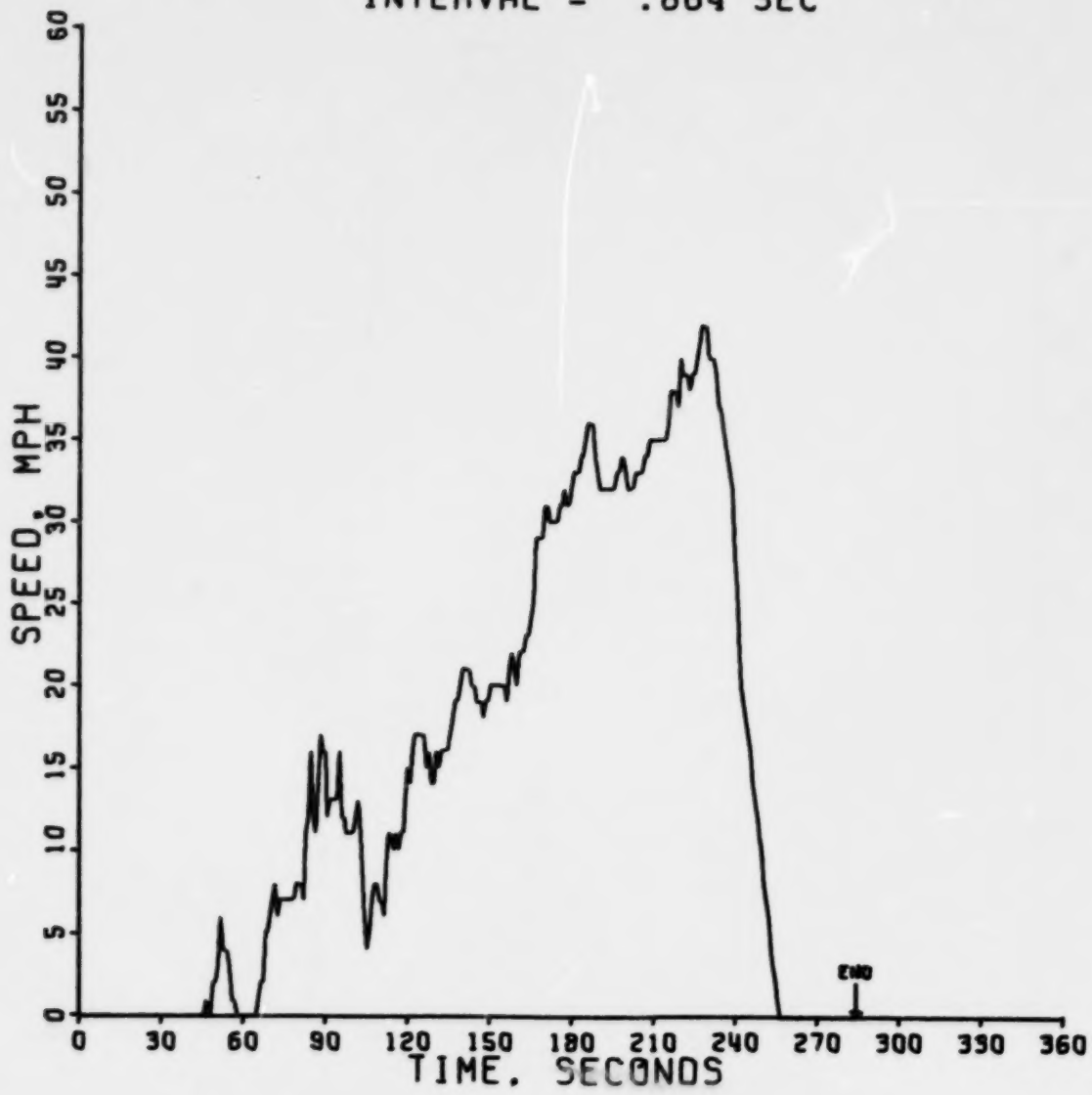
DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2106204593

DATA BASE: LA GAS + DIESEL
NONFREEWAY

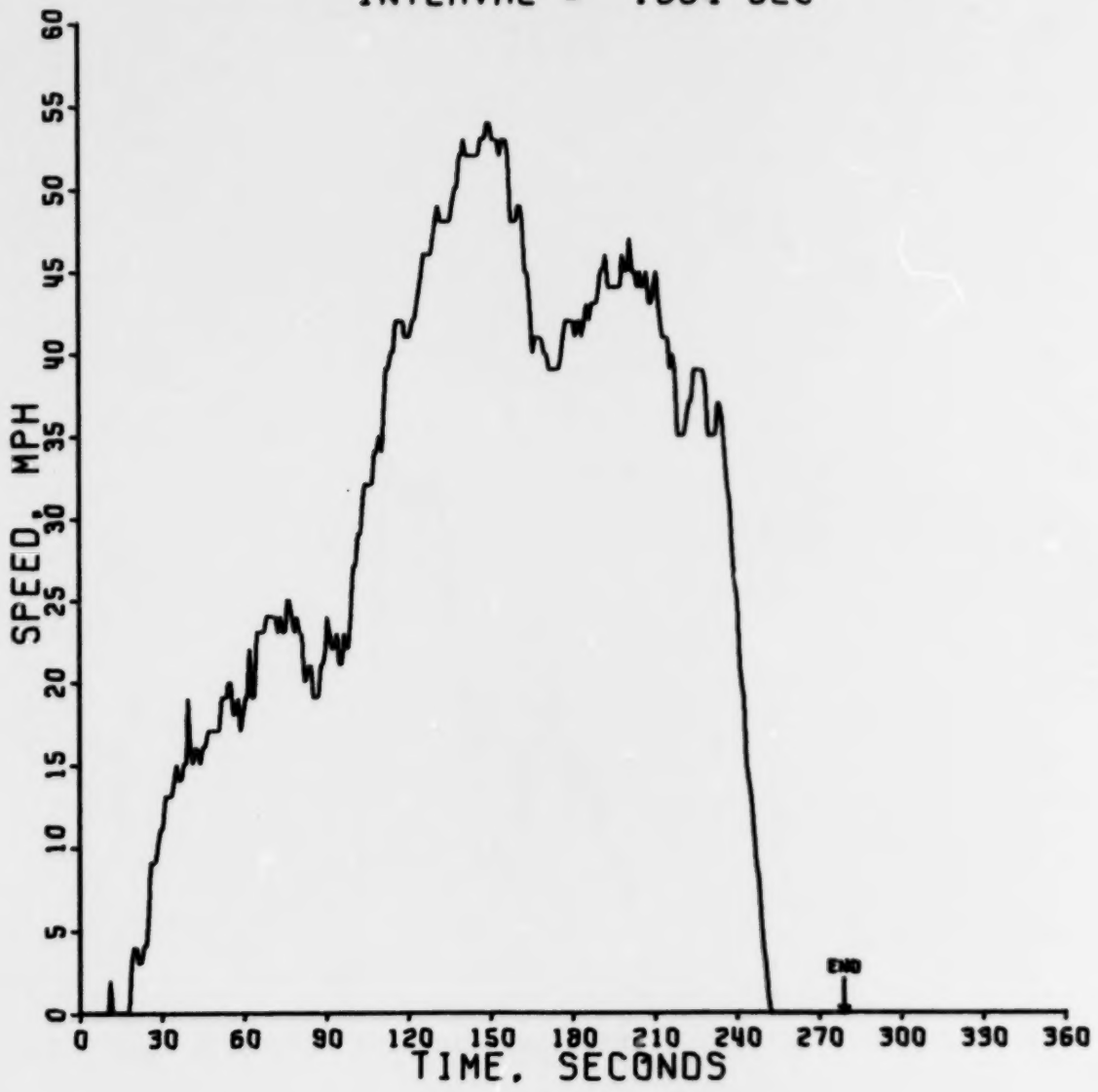
AVERAGE SPEED = 14.55 MPH
DURATION = 4.75 MIN
DISTANCE = 1.15 MILES
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2037082365

DATA BASE: NY GAS + DIESEL
FREEWAY

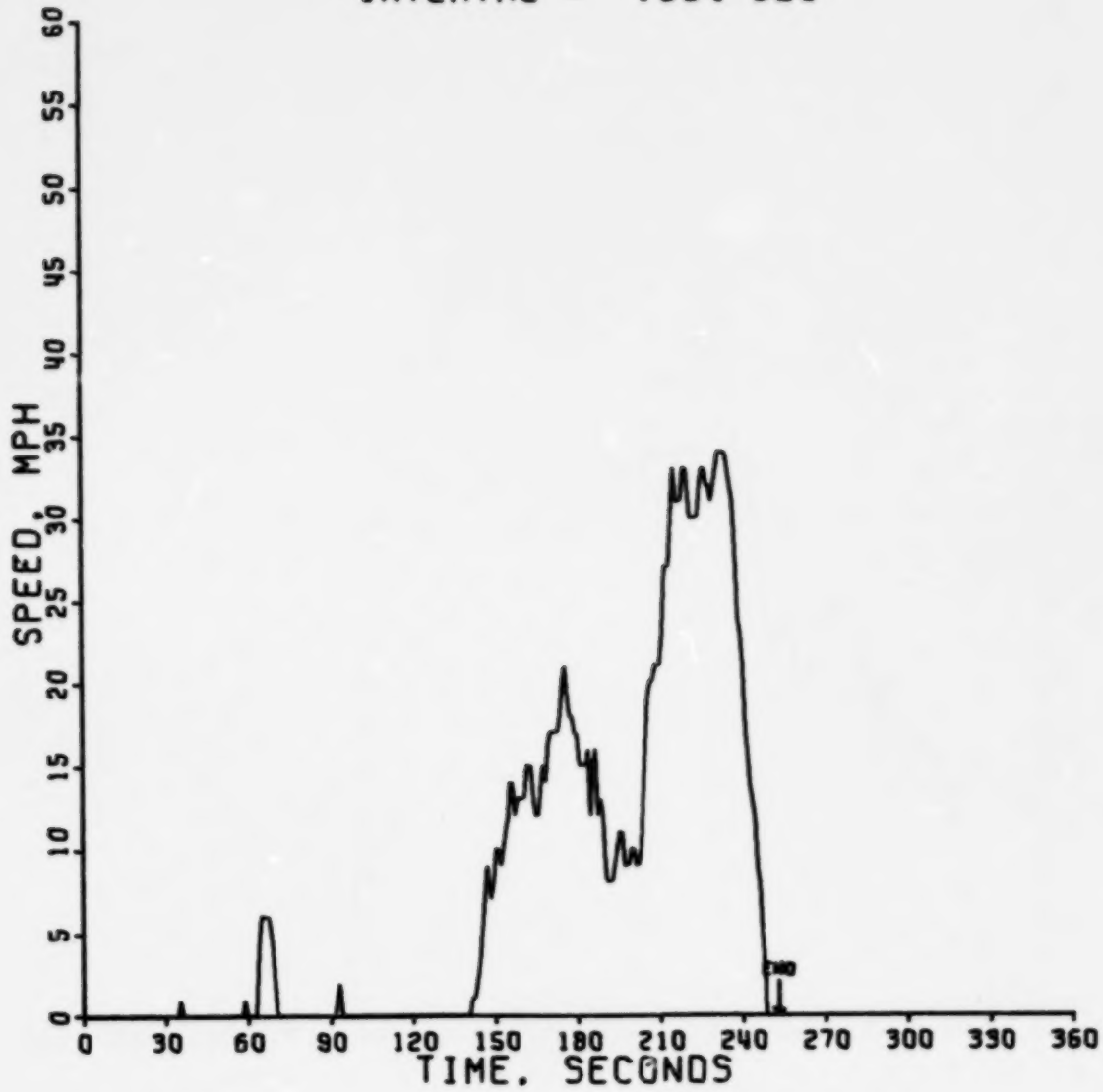
AVERAGE SPEED = 26.91 MPH
DURATION = 4.67 MIN
DISTANCE = 2.09 MILES
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2120127413

DATA BASE: NY GAS + DIESEL
NONFREEWAY

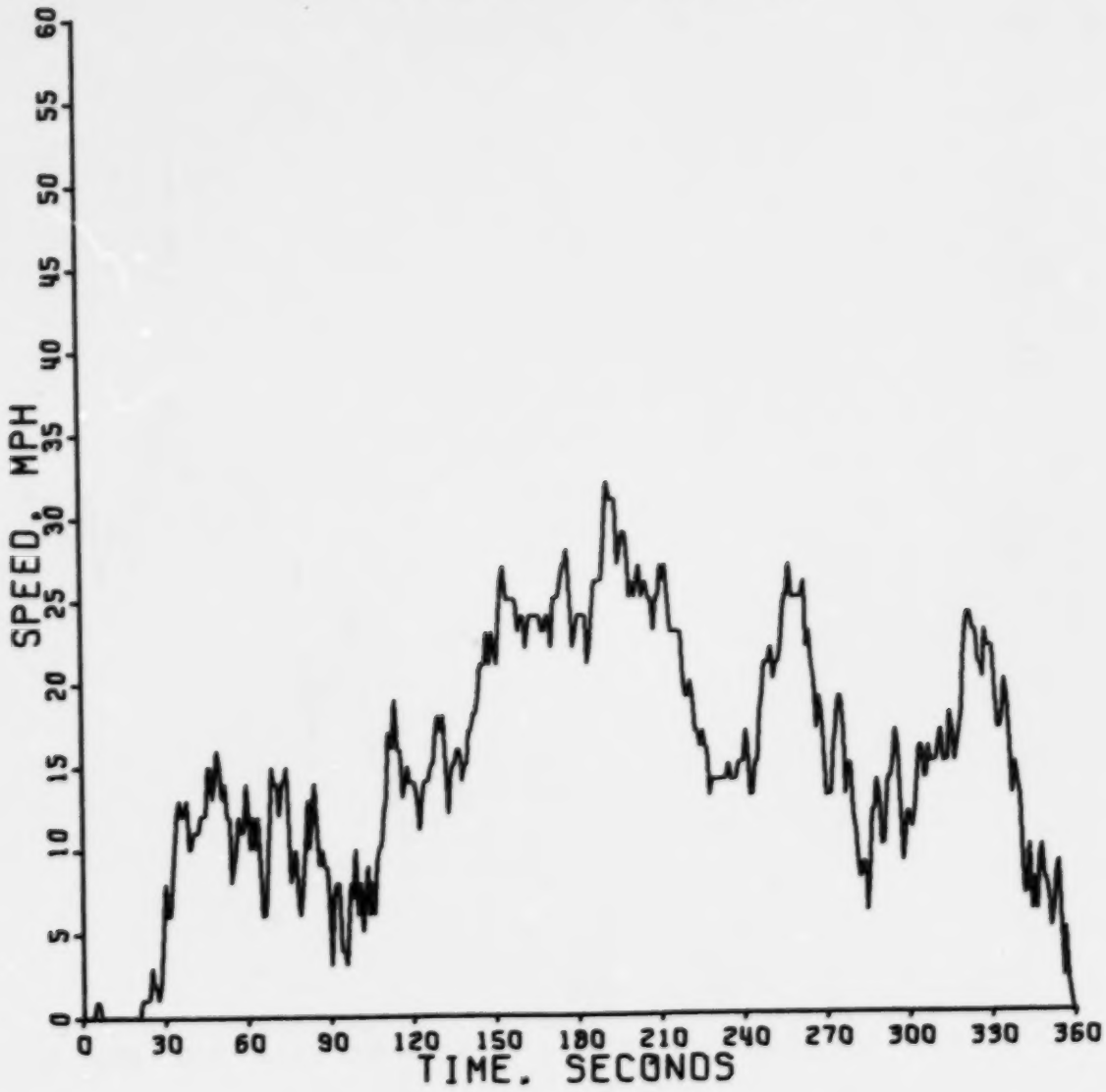
AVERAGE SPEED = 7.57
DURATION = 4.23 MIN
DISTANCE = 0.53 MILES
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2041393295

DATA BASE: LA BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 20.65 MPH
DURATION = 17.71 MIN
DISTANCE = 6.10 MILES
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2041393295 (CON'D)

DATA BASE: LA BUSES
FWY & NFWY COMPOSITE

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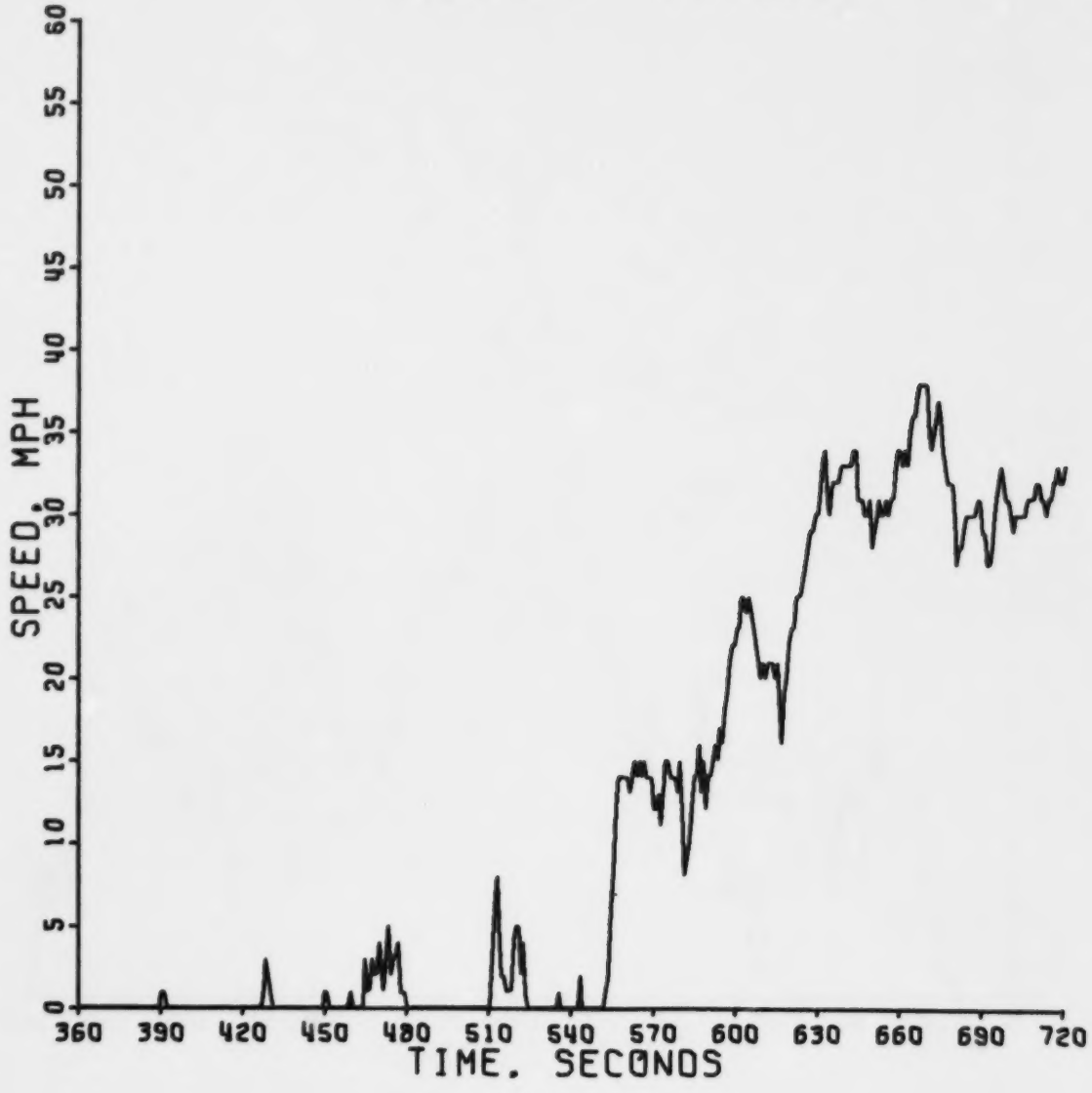
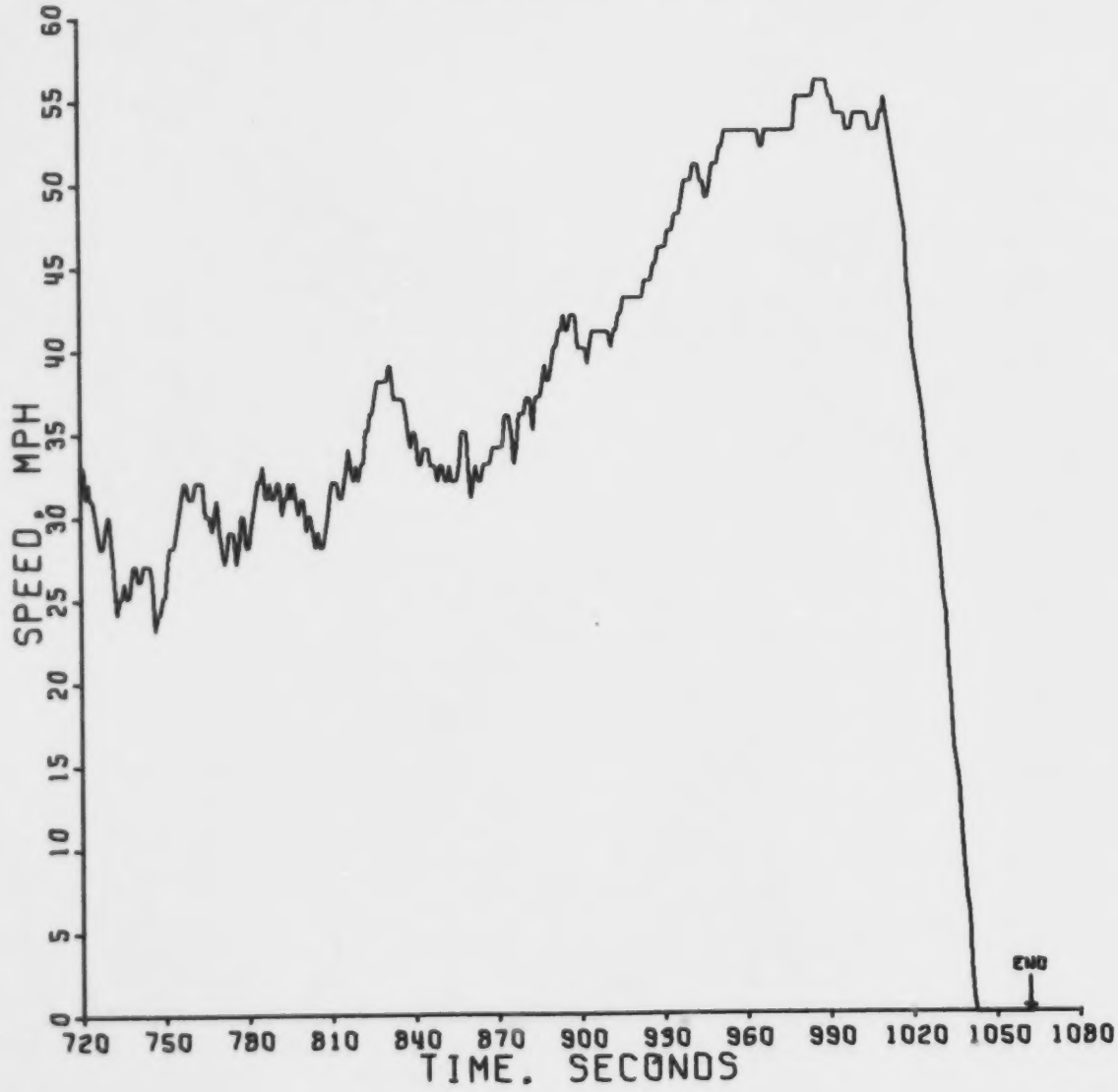
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2041393295 (CON'D)

DATA BASE: LA BUSES
FWY & NFWY COMPOSITE

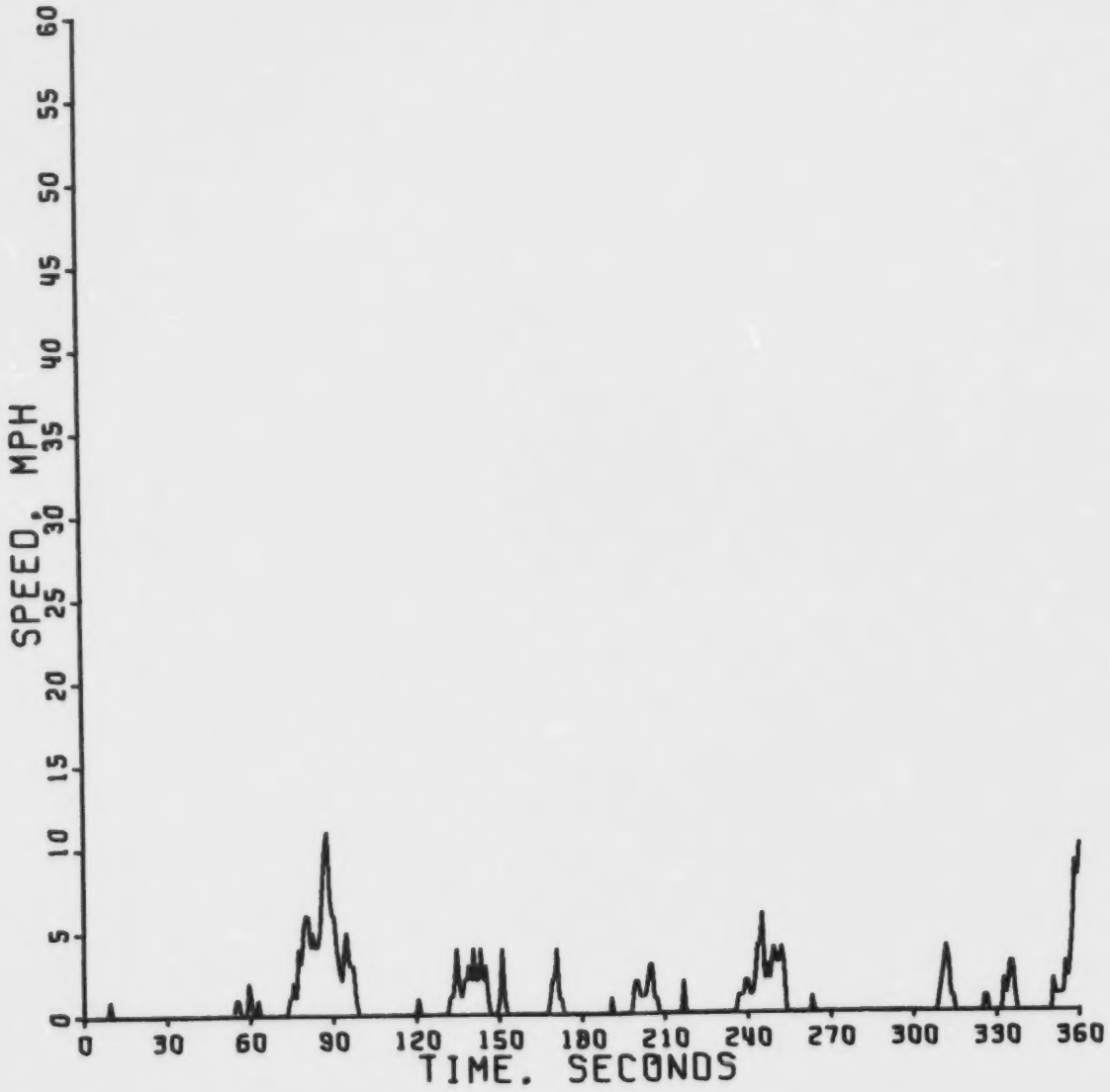
AVERAGE SPEED = 20.65 MPH
DURATION = 17.71 MIN
DISTANCE = 6.10 MILES
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
RANDOM NUMBER 2143765149

DATA BASE: NY BUSES
FWY & NFWY COMPOSITE

AVERAGE SPEED = 8.77 MPH
DURATION = 17.15 MIN
DISTANCE = 2.51 MILES
INTERVAL = .864 SEC



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FWY & NFWY COMPOSITE

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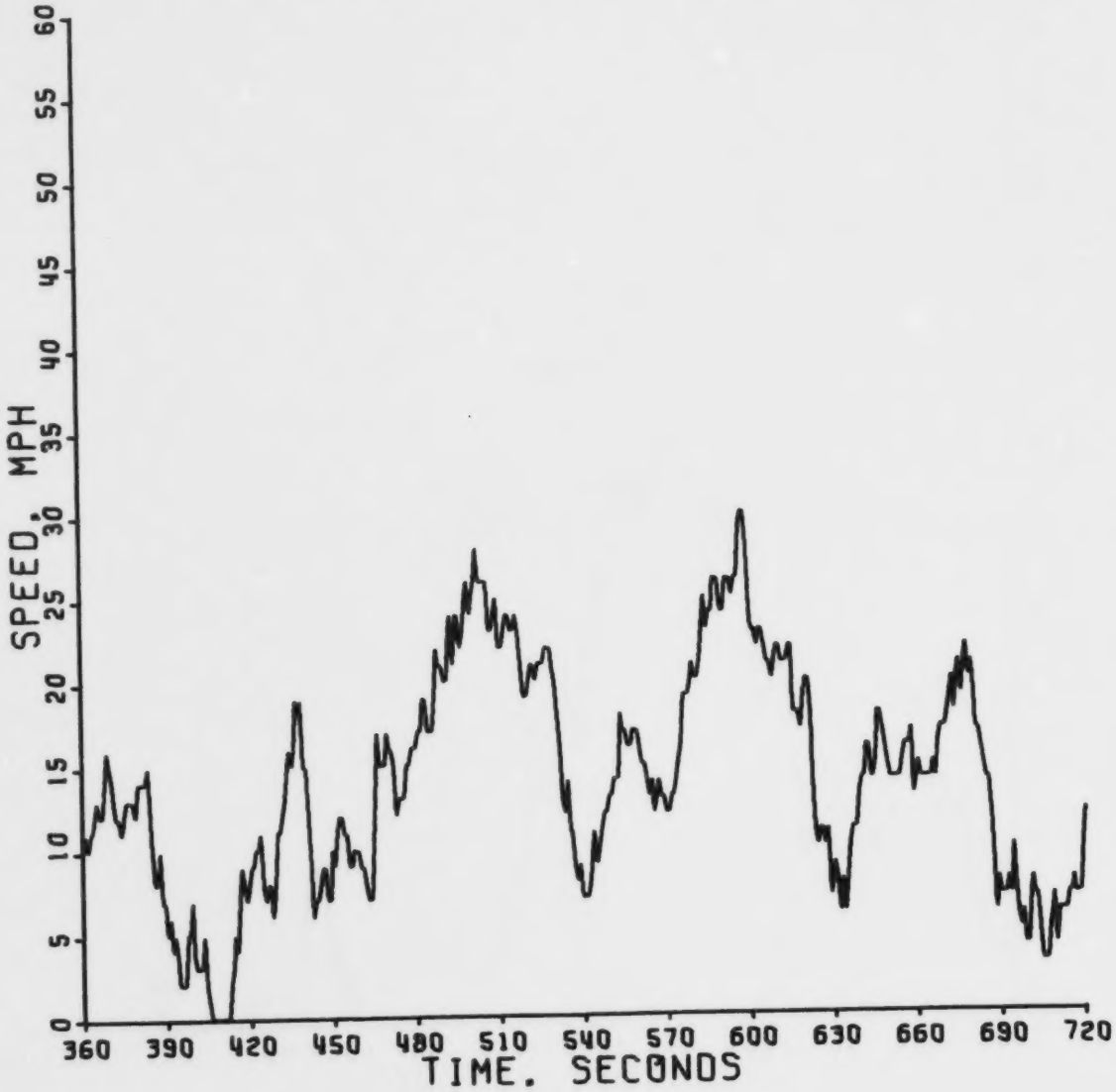
DISTANCE = 2.51 MILES
INTERVAL = .864 SEC



DRIVING CYCLE WITH STARTING
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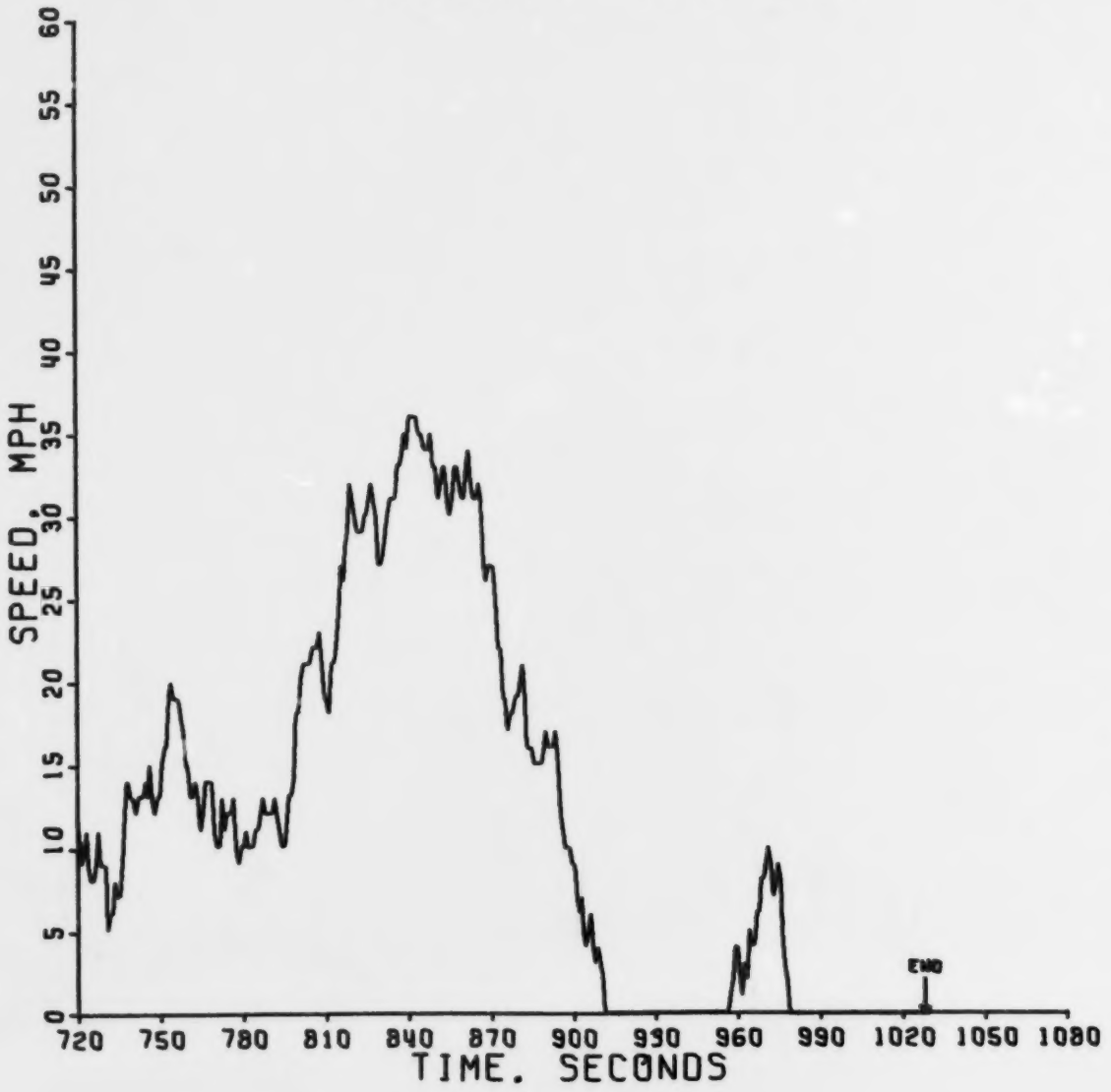
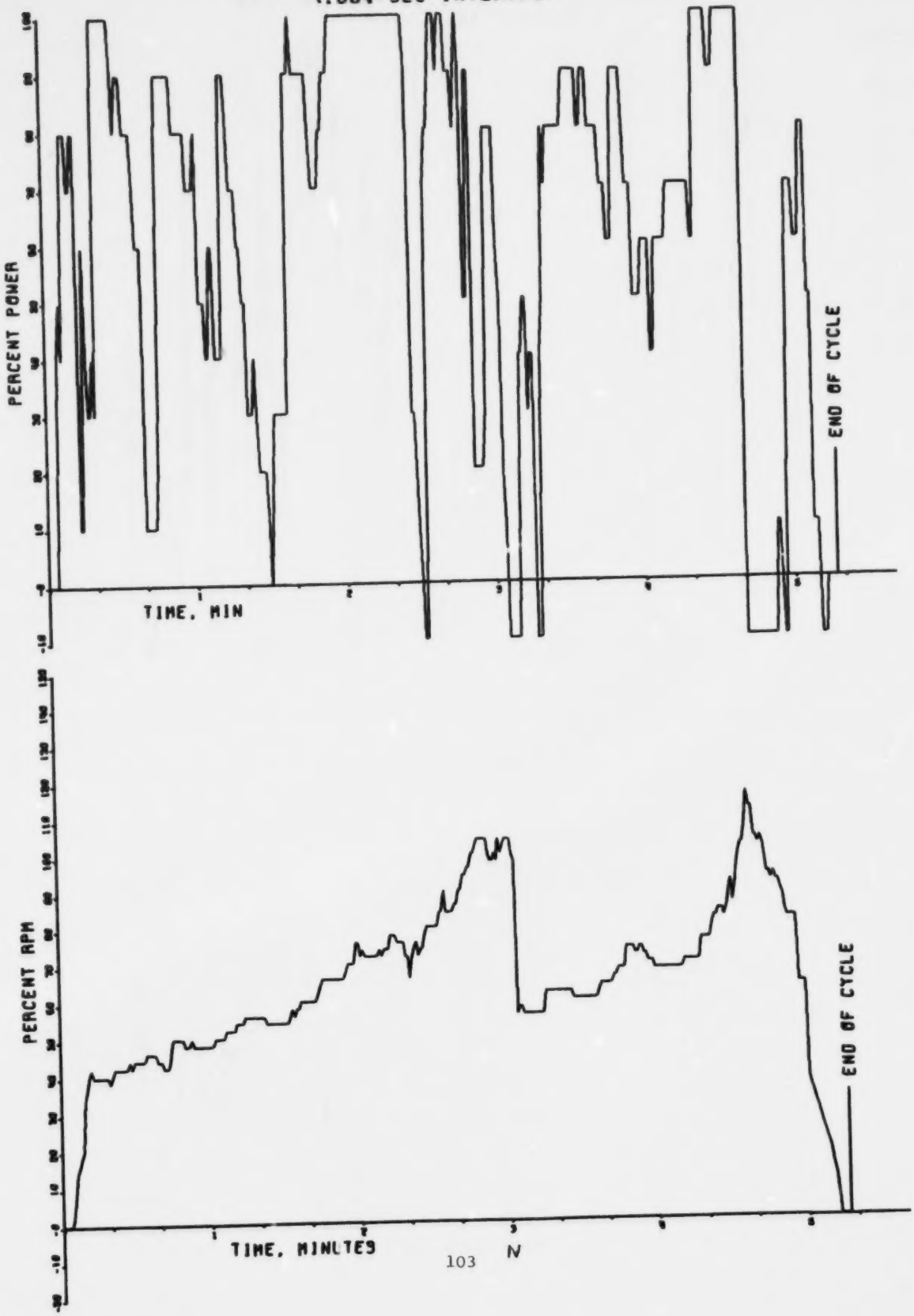
DISTANCE = 2.51 MILES
INTERVAL = .864 SEC

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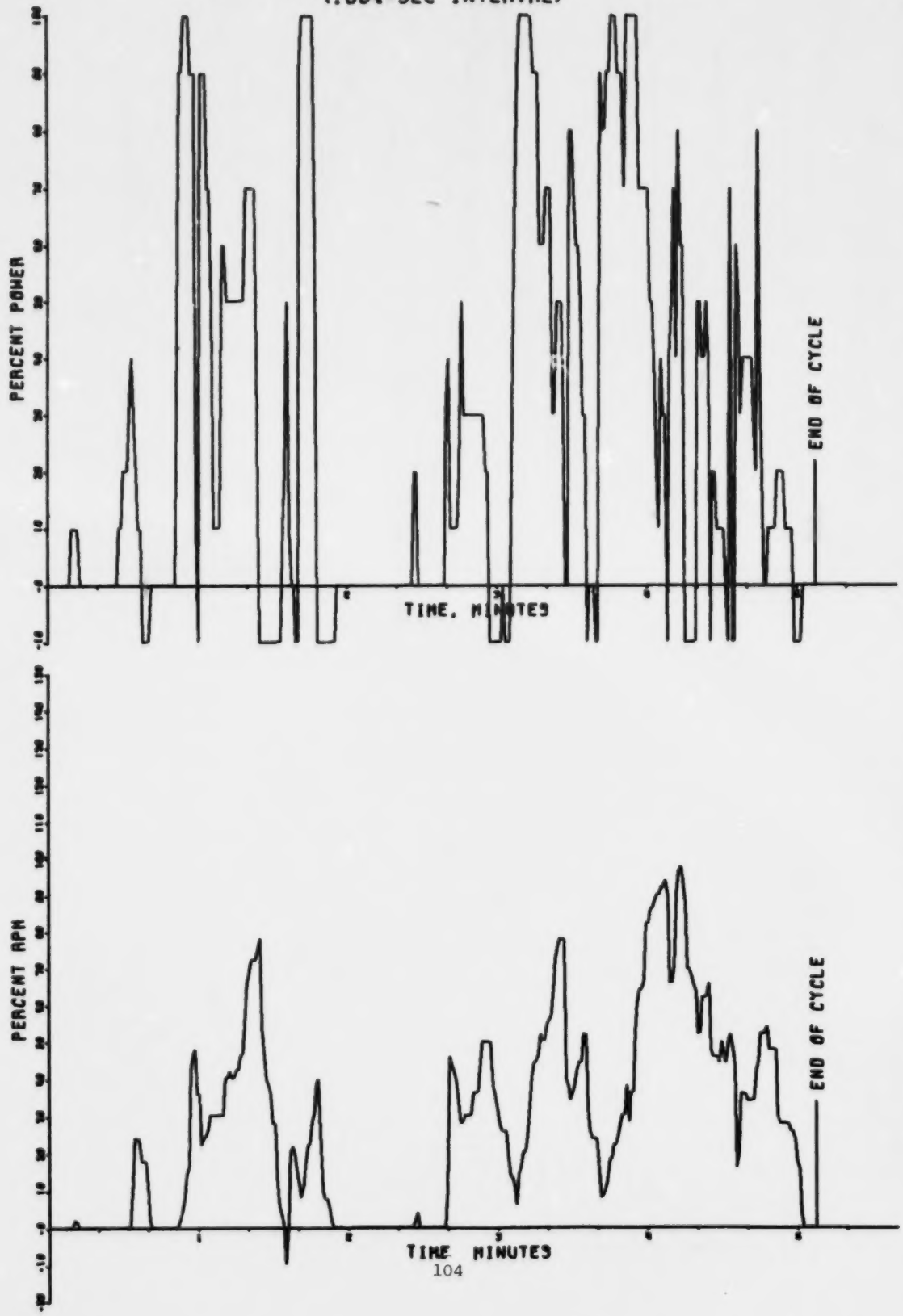
PERCENT POWER
TIME, MIN
END OF CYCLE
PERCENT RPM
TIME, MINUTES
END OF CYCLE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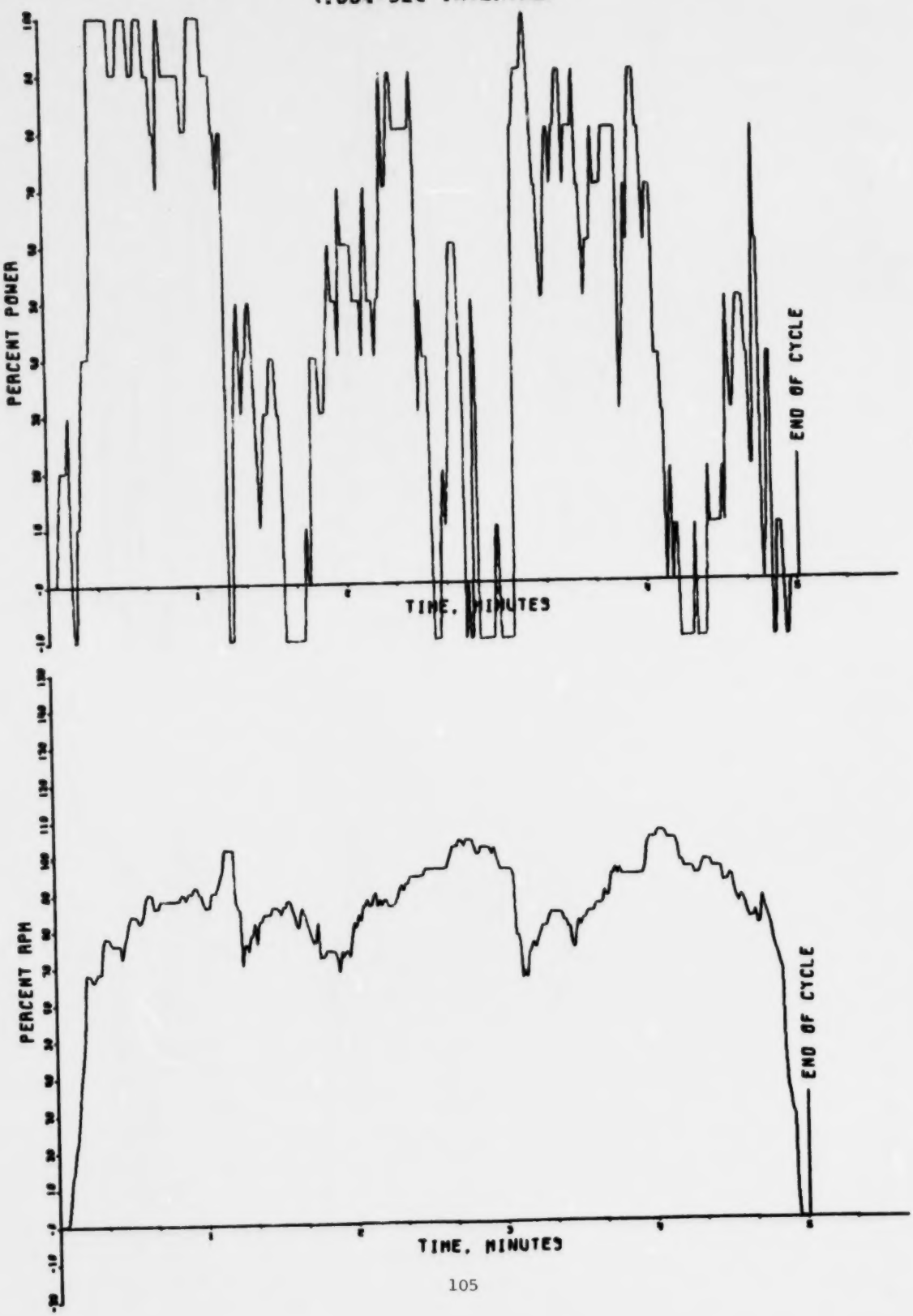
TIME, MINUTES
PERCENT RPM
END OF CYCLE
TIME MINUTES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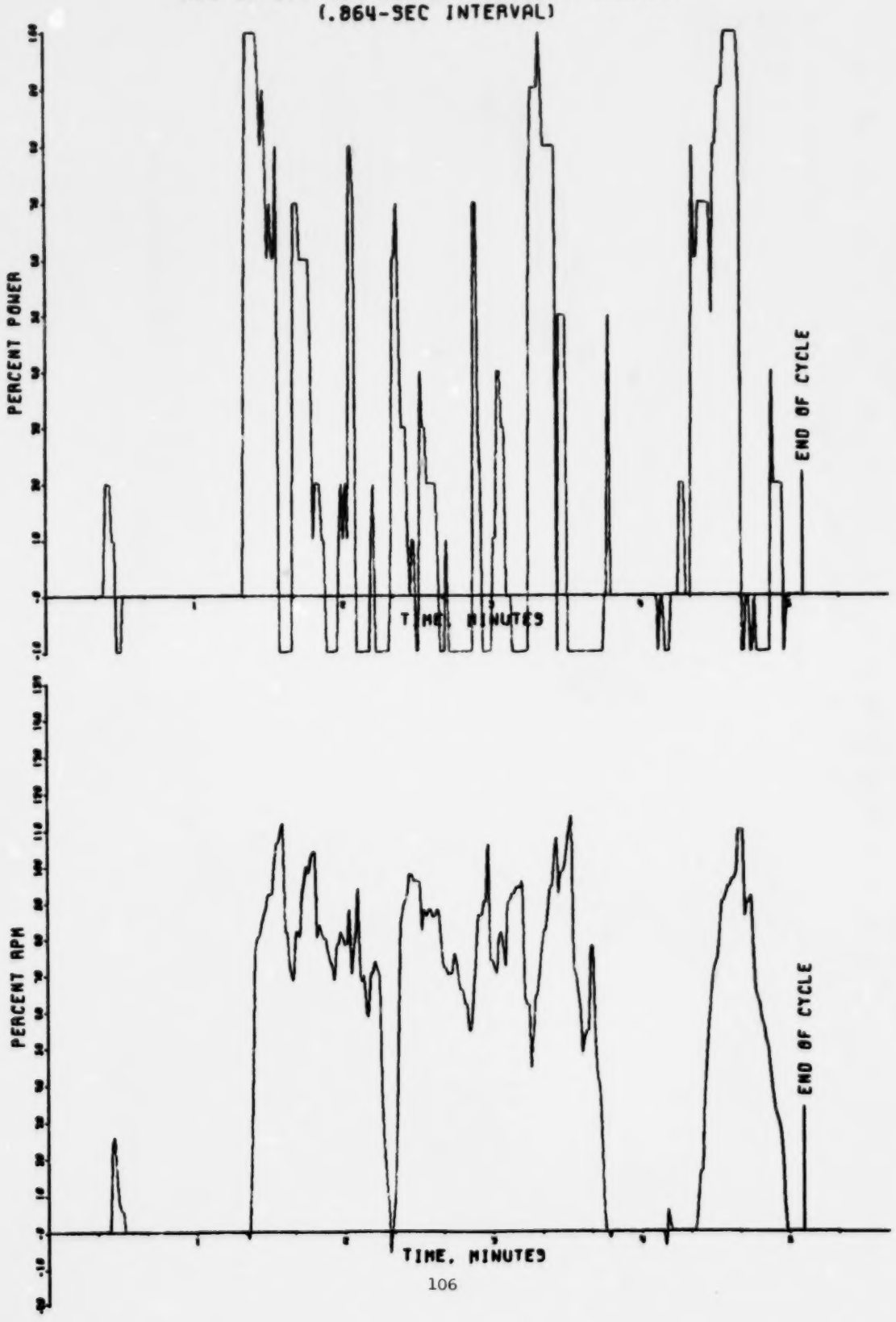
TIME, MINUTES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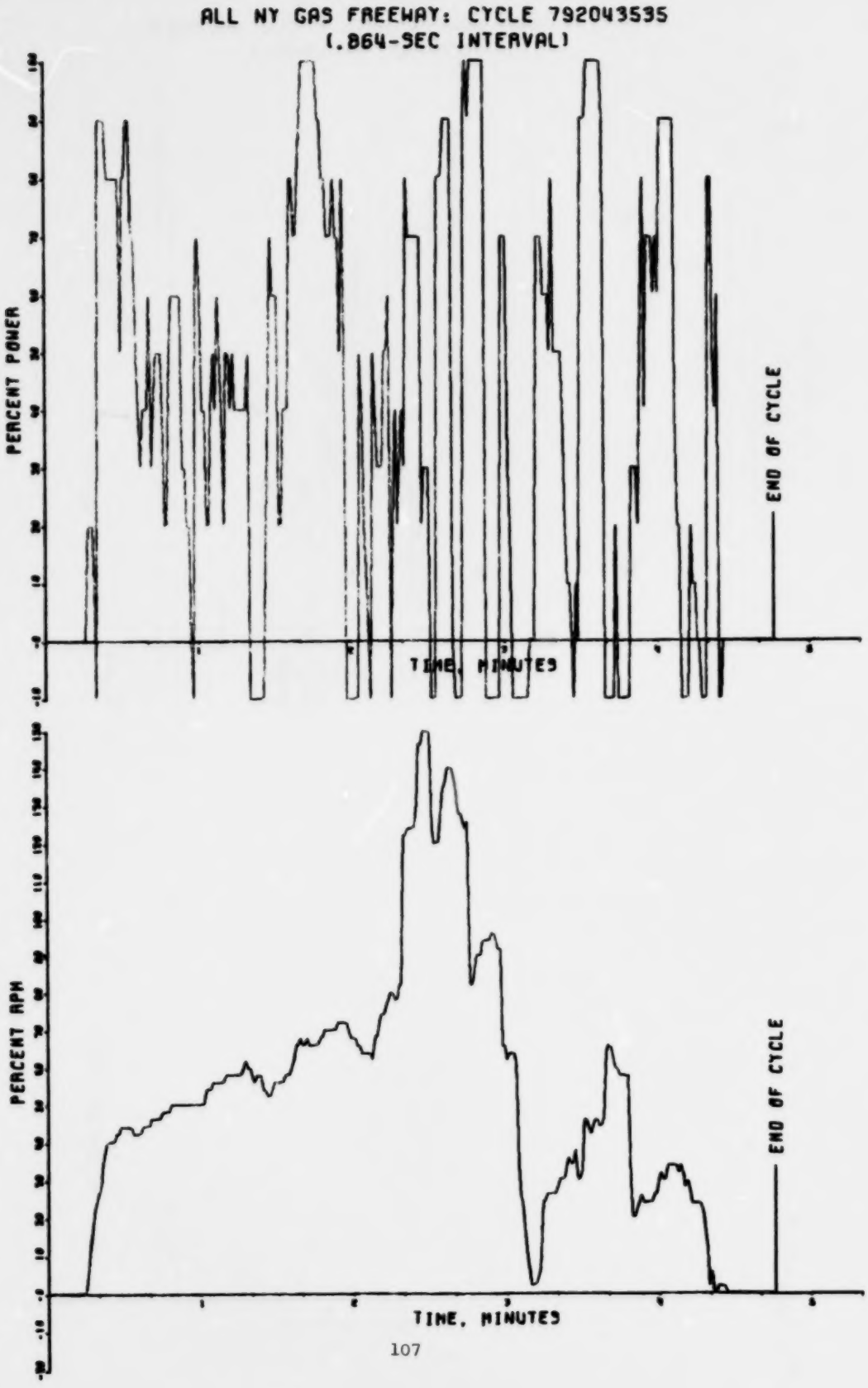
TIME, MINUTES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PERCENT RPM
TIME, MINUTES
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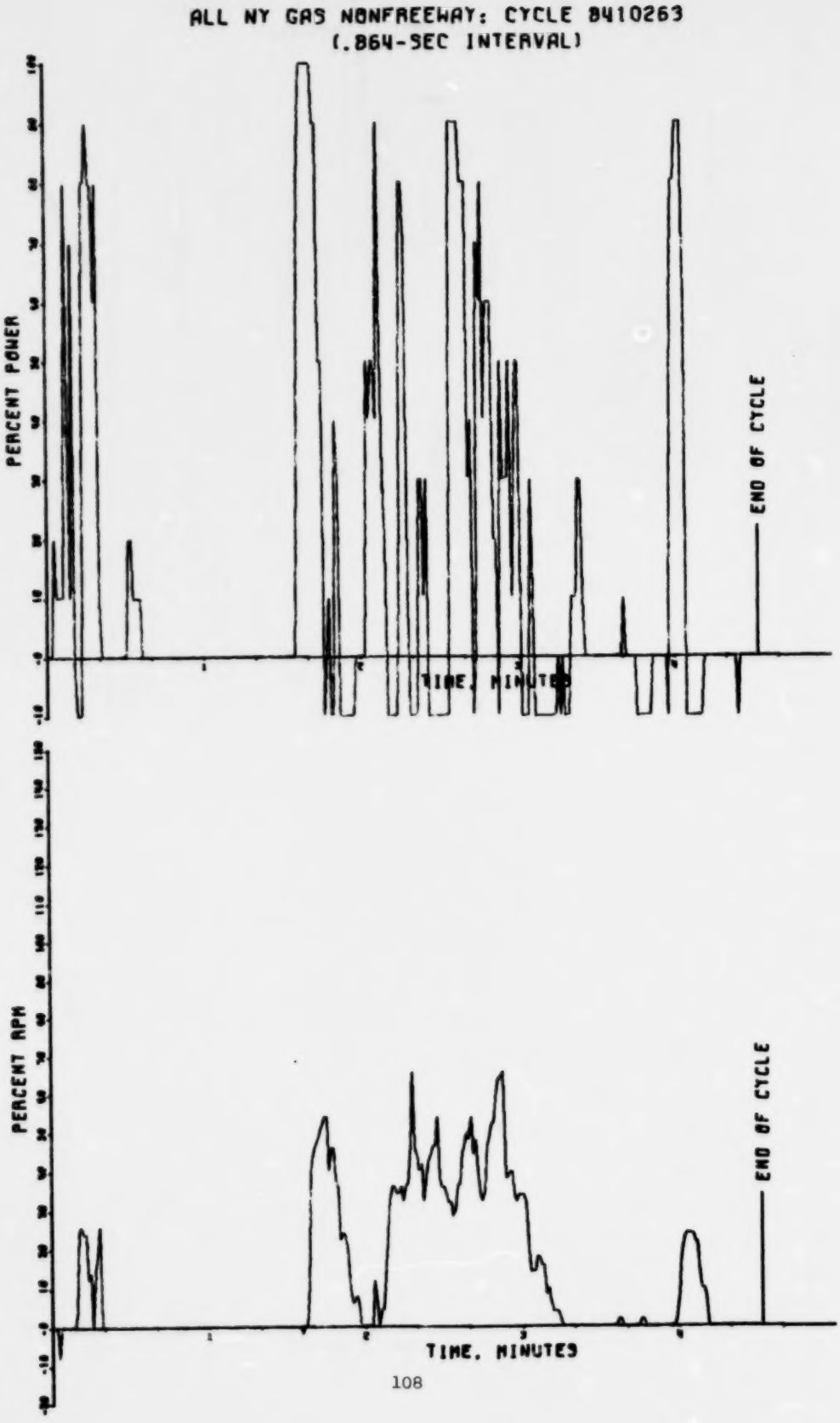
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PERCENT RPM
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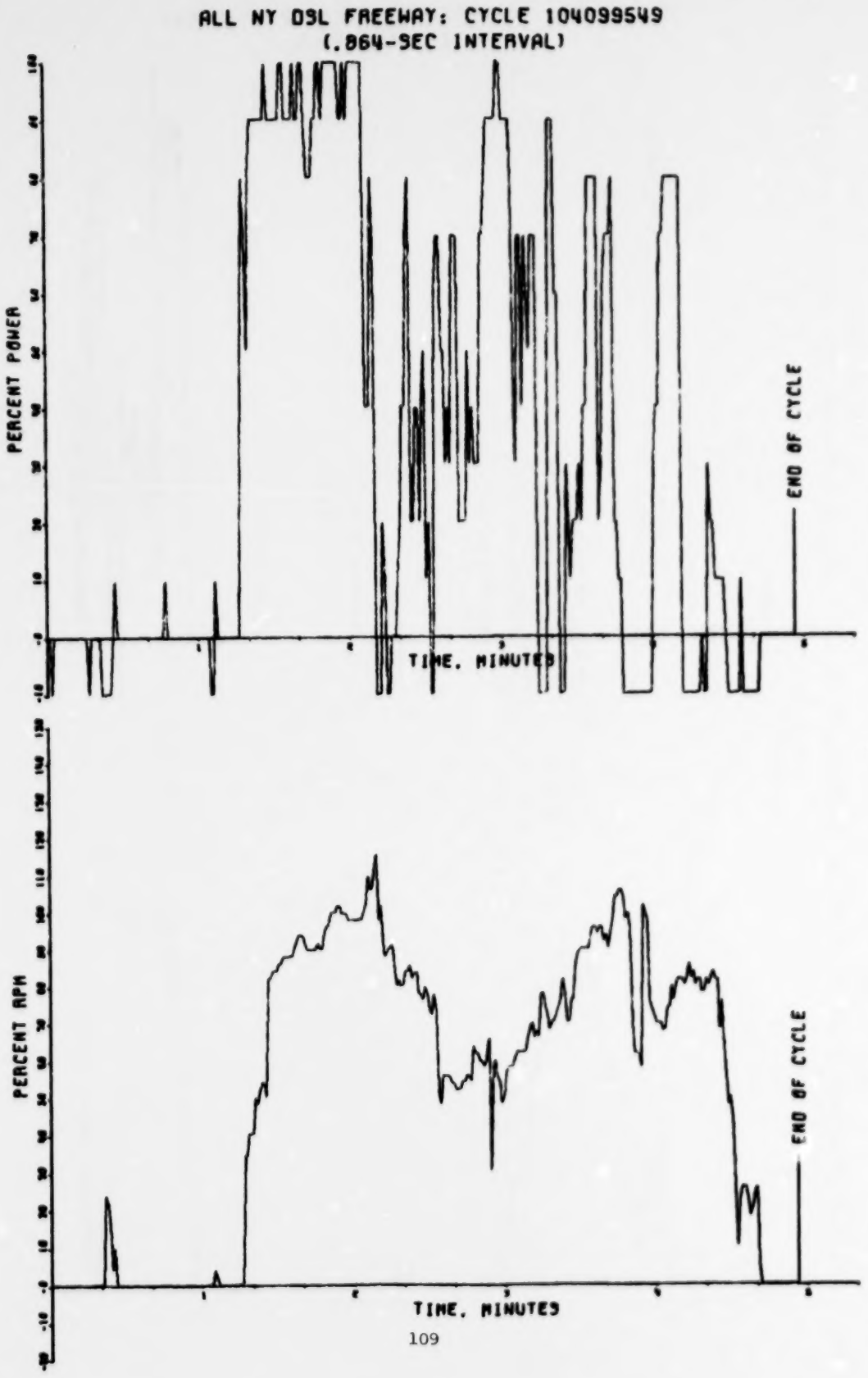
TIME, MINUTES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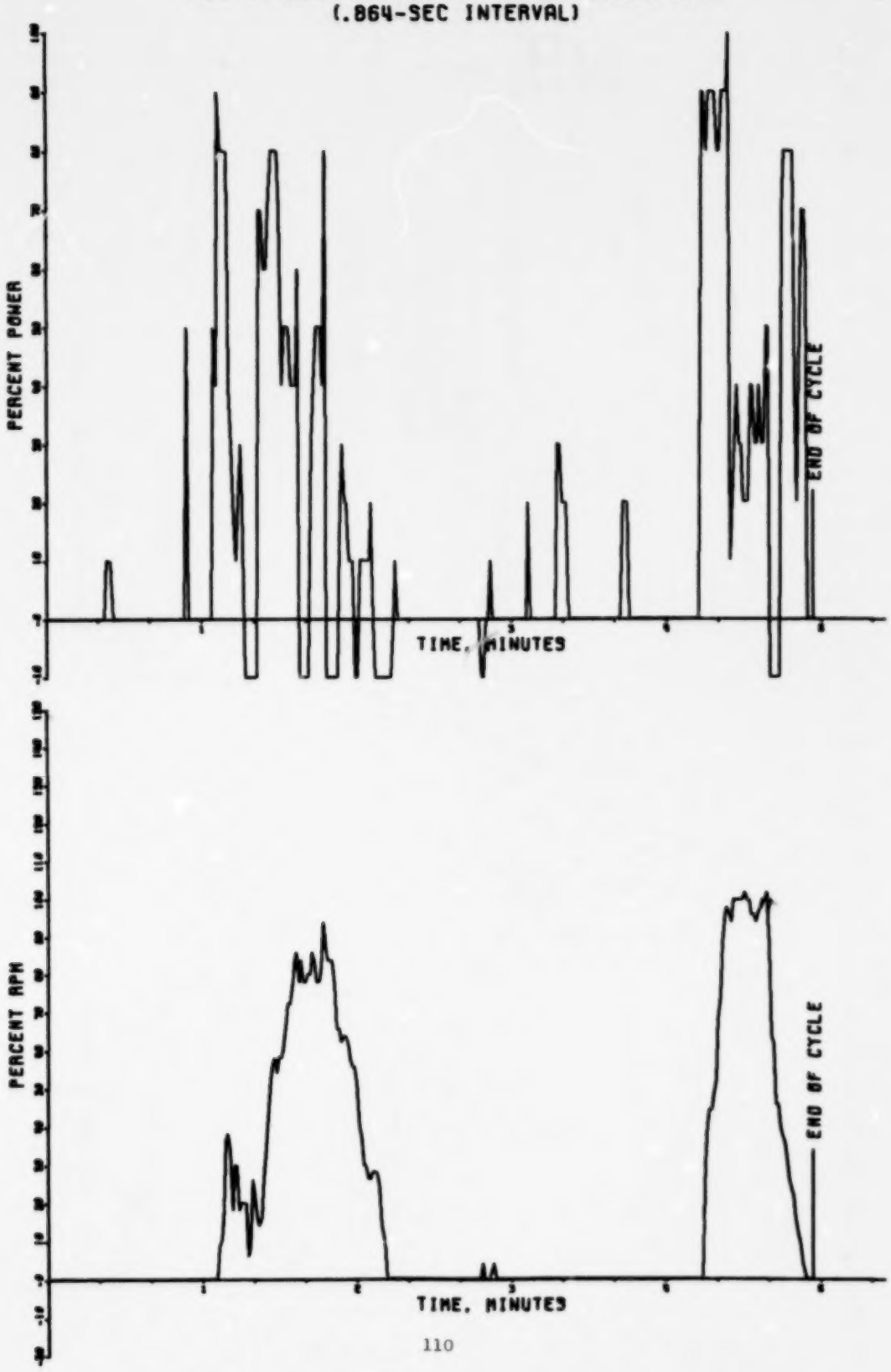
TIME, MINUTES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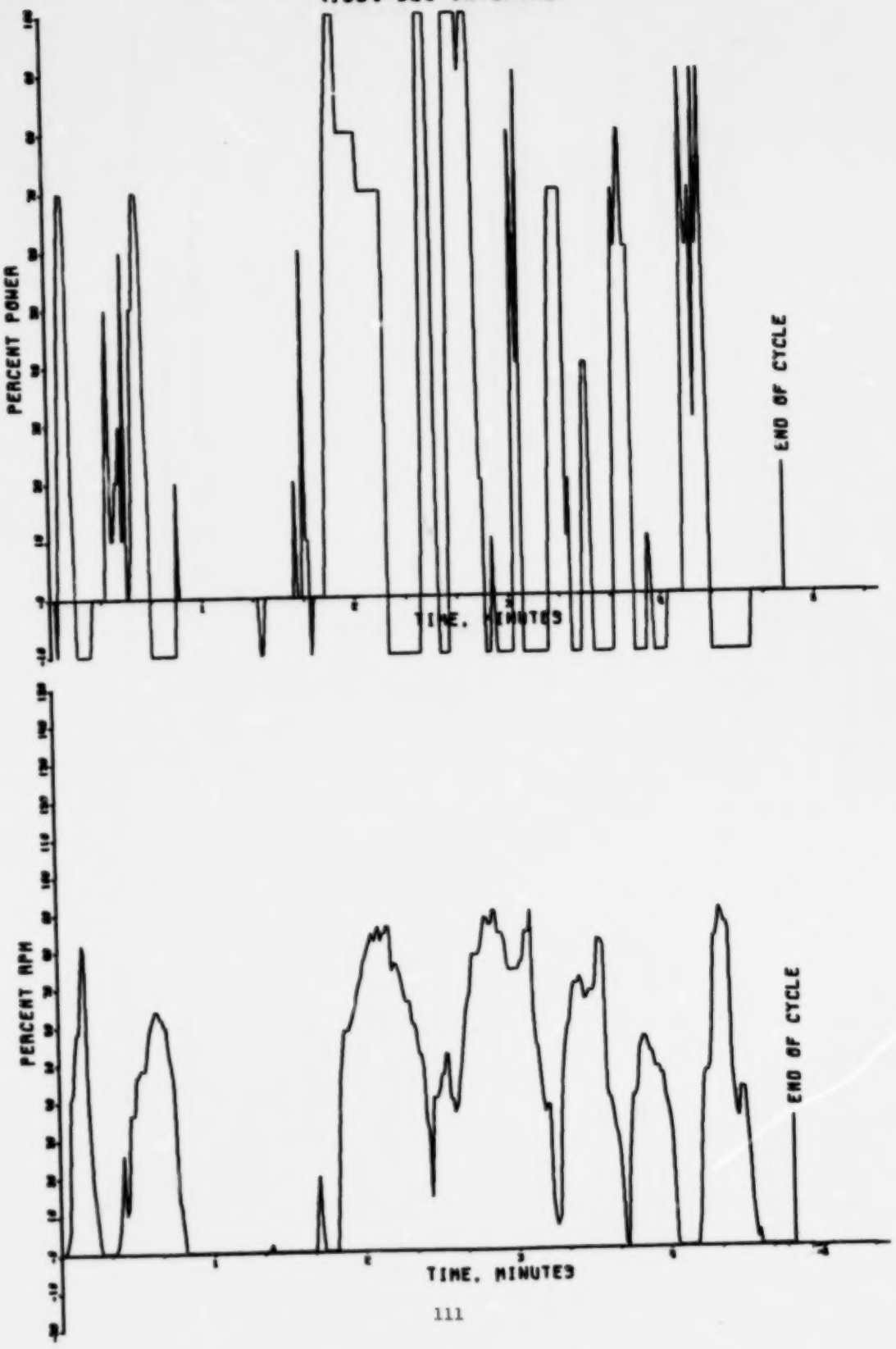
TIME, MINUTES
PERCENT RPM
END OF CYCLE
TIME, MINUTES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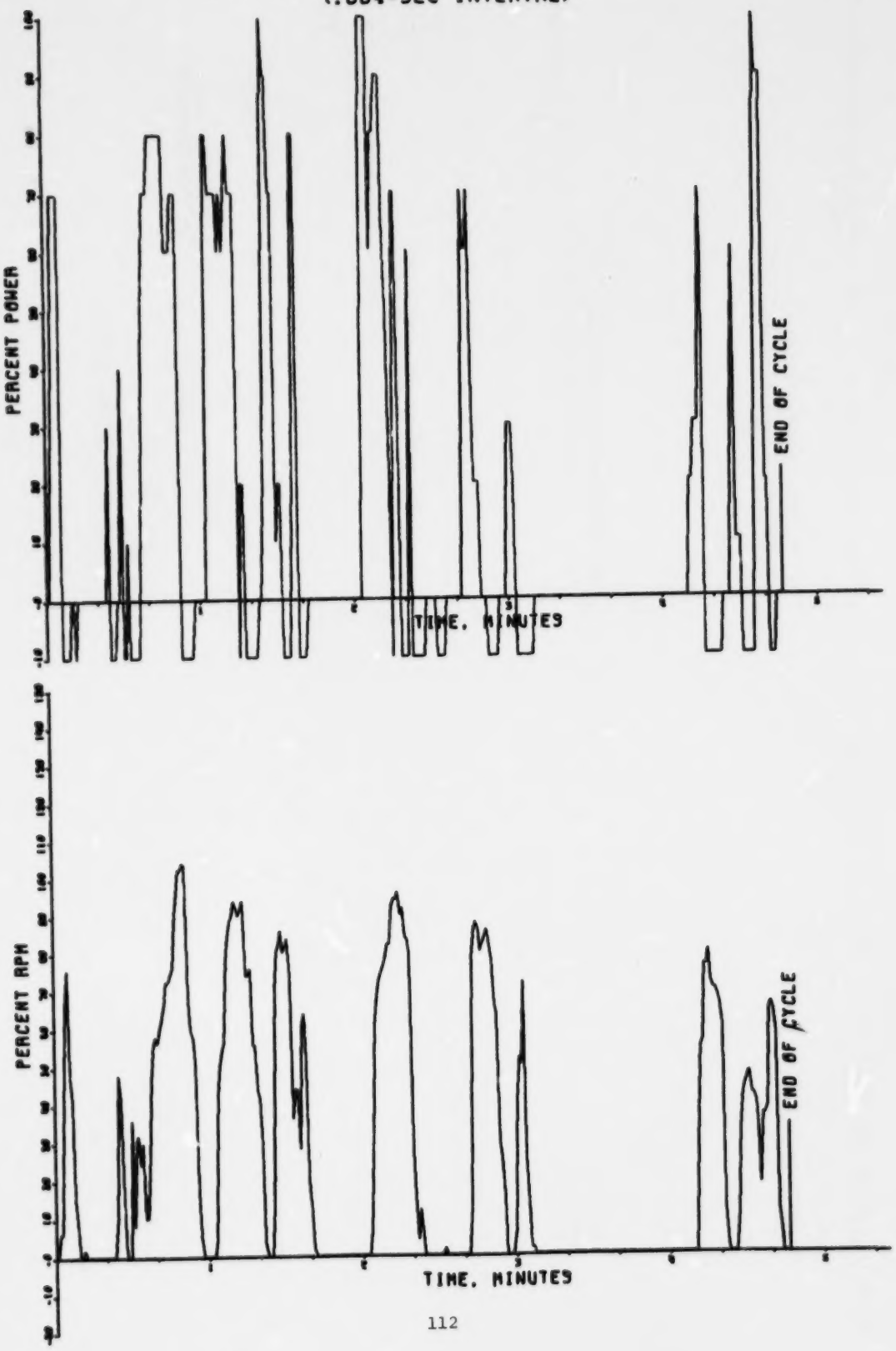
TIME, MINUTES
PERCENT RPM
END OF CYCLE
TIME, MINUTES


NY BUSES FWY + NFWY: CYCLE 2109178847
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PERCENT POWER
END OF CYCLE
TIME, MINUTES
PERCENT RPM
END OF CYCLE
TIME, MINUTES

Appendix B

ENGINE CYCLE STATISTICS AND SCHEDULES

SUMMARY MEASURES FOR CYCLE 296644805

GENERATED FROM INPUT MATRIX: ALL LA GAS FREEWAY

CYCLE DURATION = 5.27 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX | 0.0493 | 0.200 |
| UPPER | 0.0707 | 0.200 |
| DIAGONAL | 0.0861 | 0.150 |
| LOWER | 0.0885 | 0.200 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 28.14 | 29.22 |
| DIAGONAL | 41.26 | 40.15 |
| LOWER | 28.42 | 28.67 |
| *** IDLE | 2.19 | 1.96 |



POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 68.18 | 63.08 |
| % ACCEL | 13.66 | 17.18 |
| % DECEL | 18.03 | 18.02 |
| % CRUISE | 59.29 | 54.80 |
| ** % MOTORING | 6.83 | 7.16 |
| ** % ZERO | 2.19 | 2.83 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 63.52 | 62.82 |
| % ACCEL | 21.58 | 19.06 |
| % DECEL | 16.39 | 18.14 |
| % CRUISE | 59.84 | 60.30 |
| ** % ZERO | 2.19 | 2.50 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

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RPM AND POWER SCHEDULE FOR CYCLE 296644805
ALL LA GAS FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 44 | 20 | 101 | 54 | 20 | 151 | 74 | 100 |
| 2 | 0 | 0 | 52 | 50 | 90 | 102 | 54 | 10 | 152 | 74 | 100 |
| 3 | 0 | 0 | 53 | 50 | 90 | 103 | 54 | 0 | 153 | 74 | 100 |
| 4 | 0 | 0 | 54 | 50 | 90 | 104 | 54 | 10 | 154 | 78 | 100 |
| 5 | 2 | 40 | 55 | 50 | 90 | 105 | 54 | 30 | 155 | 78 | 100 |
| 6 | 8 | 50 | 56 | 50 | 90 | 106 | 54 | 30 | 156 | 78 | 100 |
| 7 | 14 | 40 | 57 | 50 | 90 | 107 | 56 | 30 | 157 | 76 | 100 |
| 8 | 16 | 80 | 58 | 48 | 90 | 108 | 58 | 30 | 158 | 76 | 100 |
| 9 | 18 | 80 | 59 | 48 | 90 | 109 | 56 | 30 | 159 | 76 | 100 |
| 10 | 20 | 80 | 60 | 48 | 80 | 110 | 58 | 30 | 160 | 76 | 100 |
| 11 | 34 | 70 | 61 | 50 | 80 | 111 | 58 | 30 | 161 | 72 | 100 |
| 12 | 36 | 70 | 62 | 48 | 80 | 112 | 60 | 90 | 162 | 72 | 100 |
| 13 | 40 | 80 | 63 | 48 | 80 | 113 | 60 | 90 | 163 | 66 | 100 |
| 14 | 42 | 80 | 64 | 48 | 80 | 114 | 60 | 90 | 164 | 72 | 100 |
| 15 | 40 | 10 | 65 | 48 | 80 | 115 | 60 | 100 | 165 | 74 | 100 |
| 16 | 40 | 10 | 66 | 48 | 70 | 116 | 60 | 90 | 166 | 76 | 100 |
| 17 | 40 | 60 | 67 | 48 | 70 | 117 | 60 | 90 | 167 | 72 | 100 |
| 18 | 40 | 40 | 68 | 48 | 70 | 118 | 60 | 90 | 168 | 74 | 90 |
| 19 | 40 | 30 | 69 | 48 | 70 | 119 | 60 | 90 | 169 | 74 | 30 |
| 20 | 40 | 30 | 70 | 48 | 80 | 120 | 62 | 90 | 170 | 78 | 30 |
| 21 | 40 | 40 | 71 | 48 | 50 | 121 | 64 | 90 | 171 | 80 | 20 |
| 22 | 40 | 30 | 72 | 50 | 50 | 122 | 66 | 90 | 172 | 80 | 10 |
| 23 | 38 | 100 | 73 | 50 | 50 | 123 | 66 | 80 | 173 | 80 | 0 |
| 24 | 40 | 100 | 74 | 50 | 40 | 124 | 66 | 70 | 174 | 80 | M |
| 25 | 42 | 100 | 75 | 50 | 40 | 125 | 66 | 70 | 175 | 80 | M |
| 26 | 42 | 100 | 76 | 50 | 60 | 126 | 66 | 70 | 176 | 80 | 70 |
| 27 | 42 | 100 | 77 | 52 | 60 | 127 | 66 | 70 | 177 | 84 | 80 |
| 28 | 42 | 100 | 78 | 52 | 40 | 128 | 66 | 80 | 178 | 84 | 80 |
| 29 | 42 | 100 | 79 | 52 | 40 | 129 | 66 | 80 | 179 | 90 | 90 |
| 30 | 42 | 100 | 80 | 52 | 40 | 130 | 66 | 90 | 180 | 84 | 100 |
| 31 | 42 | 100 | 81 | 52 | 40 | 131 | 66 | 90 | 181 | 84 | 100 |
| 32 | 44 | 90 | 82 | 54 | 90 | 132 | 66 | 90 | 182 | 84 | 100 |
| 33 | 42 | 80 | 83 | 54 | 90 | 133 | 68 | 100 | 183 | 84 | 90 |
| 34 | 44 | 90 | 84 | 54 | 90 | 134 | 70 | 100 | 184 | 86 | 100 |
| 35 | 44 | 90 | 85 | 54 | 80 | 135 | 70 | 100 | 185 | 86 | 100 |
| 36 | 44 | 90 | 86 | 56 | 70 | 136 | 70 | 100 | 186 | 90 | 100 |
| 37 | 44 | 80 | 87 | 56 | 70 | 137 | 70 | 100 | 187 | 90 | 90 |
| 38 | 44 | 80 | 88 | 56 | 70 | 138 | 76 | 100 | 188 | 94 | 90 |
| 39 | 44 | 80 | 89 | 56 | 60 | 139 | 76 | 100 | 189 | 94 | 90 |
| 40 | 46 | 80 | 90 | 56 | 60 | 140 | 72 | 100 | 190 | 96 | 80 |
| 41 | 46 | 70 | 91 | 56 | 50 | 141 | 74 | 100 | 191 | 96 | 90 |
| 42 | 46 | 60 | 92 | 56 | 50 | 142 | 72 | 100 | 192 | 100 | 100 |
| 43 | 46 | 60 | 93 | 56 | 30 | 143 | 72 | 100 | 193 | 100 | 90 |
| 44 | 46 | 60 | 94 | 56 | 30 | 144 | 72 | 100 | 194 | 102 | 50 |
| 45 | 44 | 10 | 95 | 56 | 30 | 145 | 72 | 100 | 195 | 104 | 50 |
| 46 | 44 | 10 | 96 | 54 | 40 | 146 | 72 | 100 | 196 | 104 | 90 |
| 47 | 44 | 10 | 97 | 54 | 30 | 147 | 72 | 100 | 197 | 104 | 90 |
| 48 | 42 | 10 | 98 | 54 | 20 | 148 | 72 | 100 | 198 | 104 | 20 |
| 49 | 42 | 10 | 99 | 54 | 20 | 149 | 74 | 100 | 199 | 104 | 20 |
| 50 | 42 | 10 | 100 | 54 | 20 | 150 | 72 | 100 | 200 | 100 | 20 |

RPM AND POWER SCHEDULE FOR CYCLE 296644805 (CONTINUED)
ALL LA GAS FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 98 | 20 | 243 | 60 | 90 | 285 | 68 | 60 | 327 | 104 | M |
| 202 | 98 | 20 | 244 | 60 | 90 | 286 | 68 | 60 | 328 | 102 | M |
| 203 | 100 | 30 | 245 | 60 | 90 | 287 | 68 | 60 | 329 | 98 | M |
| 204 | 98 | 80 | 246 | 60 | 90 | 288 | 68 | 60 | 330 | 94 | M |
| 205 | 104 | 80 | 247 | 60 | 90 | 289 | 68 | 70 | 331 | 94 | M |
| 206 | 100 | 80 | 248 | 60 | 80 | 290 | 68 | 70 | 332 | 92 | M |
| 207 | 102 | 80 | 249 | 60 | 80 | 291 | 70 | 70 | 333 | 94 | M |
| 208 | 104 | 80 | 250 | 60 | 90 | 292 | 70 | 70 | 334 | 92 | M |
| 209 | 104 | 60 | 251 | 62 | 90 | 293 | 70 | 70 | 335 | 92 | M |
| 210 | 104 | 50 | 252 | 64 | 90 | 294 | 70 | 70 | 336 | 90 | M |
| 211 | 100 | 20 | 253 | 64 | 80 | 295 | 70 | 70 | 337 | 88 | M |
| 212 | 98 | 10 | 254 | 64 | 80 | 296 | 70 | 70 | 338 | 84 | M |
| 213 | 56 | M | 255 | 64 | 80 | 297 | 70 | 70 | 339 | 82 | 10 |
| 214 | 58 | M | 256 | 64 | 80 | 298 | 70 | 70 | 340 | 82 | 10 |
| 215 | 58 | M | 257 | 64 | 80 | 299 | 76 | 70 | 341 | 82 | 0 |
| 216 | 56 | M | 258 | 66 | 70 | 300 | 76 | 60 | 342 | 82 | M |
| 217 | 56 | M | 259 | 66 | 70 | 301 | 76 | 60 | 343 | 82 | M |
| 218 | 56 | M | 260 | 68 | 70 | 302 | 76 | 100 | 344 | 64 | 70 |
| 219 | 56 | 40 | 261 | 68 | 60 | 303 | 76 | 100 | 345 | 64 | 70 |
| 220 | 56 | 40 | 262 | 68 | 60 | 304 | 80 | 100 | 346 | 64 | 70 |
| 221 | 56 | 50 | 263 | 68 | 60 | 305 | 82 | 100 | 347 | 64 | 70 |
| 222 | 56 | 50 | 264 | 74 | 90 | 306 | 82 | 100 | 348 | 38 | 60 |
| 223 | 56 | 30 | 265 | 74 | 90 | 307 | 84 | 100 | 349 | 36 | 60 |
| 224 | 56 | 40 | 266 | 74 | 90 | 308 | 84 | 100 | 350 | 34 | 60 |
| 225 | 56 | 40 | 267 | 74 | 90 | 309 | 84 | 90 | 351 | 32 | 80 |
| 226 | 62 | M | 268 | 72 | 90 | 310 | 82 | 90 | 352 | 30 | 80 |
| 227 | 62 | M | 269 | 72 | 80 | 311 | 84 | 90 | 353 | 28 | 80 |
| 228 | 62 | M | 270 | 74 | 70 | 312 | 88 | 100 | 354 | 26 | 50 |
| 229 | 62 | 40 | 271 | 74 | 70 | 313 | 92 | 100 | 355 | 24 | 50 |
| 230 | 62 | 50 | 272 | 72 | 70 | 314 | 86 | 100 | 356 | 22 | 10 |
| 231 | 62 | 80 | 273 | 72 | 50 | 315 | 90 | 100 | 357 | 20 | 10 |
| 232 | 62 | 70 | 274 | 70 | 50 | 316 | 96 | 100 | 358 | 18 | 10 |
| 233 | 62 | 80 | 275 | 70 | 50 | 317 | 100 | 100 | 359 | 14 | M |
| 234 | 62 | 80 | 276 | 70 | 50 | 318 | 102 | 100 | 360 | 12 | M |
| 235 | 62 | 80 | 277 | 68 | 60 | 319 | 102 | 100 | 361 | 6 | M |
| 236 | 62 | 80 | 278 | 68 | 60 | 320 | 108 | 100 | 362 | 0 | 0 |
| 237 | 62 | 80 | 279 | 68 | 60 | 321 | 116 | 100 | 363 | 0 | 0 |
| 238 | 62 | 80 | 280 | 68 | 60 | 322 | 112 | 100 | 364 | 0 | 0 |
| 239 | 60 | 80 | 281 | 68 | 40 | 323 | 112 | 100 | 365 | 0 | 0 |
| 240 | 60 | 80 | 282 | 68 | 40 | 324 | 104 | M | 366 | 0 | 0 |
| 241 | 60 | 90 | 283 | 68 | 60 | 325 | 104 | M | | | |
| 242 | 60 | 90 | 284 | 68 | 60 | 326 | 102 | M | | | |

RPM AND POWER SCHEDULE FOR CYCLE 296644805
ALL LA GAS FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 48 | 90 | 101 | 60 | 90 | 151 | 80 | M |
| 2 | 0 | 0 | 52 | 48 | 80 | 102 | 60 | 90 | 152 | 80 | 64 |
| 3 | 0 | 0 | 53 | 49 | 80 | 103 | 60 | 90 | 153 | 84 | 80 |
| 4 | 1 | 25 | 54 | 48 | 80 | 104 | 63 | 90 | 154 | 85 | 82 |
| 5 | 7 | 48 | 55 | 48 | 80 | 105 | 65 | 90 | 155 | 88 | 94 |
| 6 | 14 | 41 | 56 | 48 | 80 | 106 | 66 | 83 | 156 | 84 | 100 |
| 7 | 16 | 80 | 57 | 48 | 70 | 107 | 66 | 72 | 157 | 84 | 100 |
| 8 | 19 | 80 | 58 | 48 | 70 | 108 | 66 | 70 | 158 | 84 | 91 |
| 9 | 26 | 76 | 59 | 48 | 70 | 109 | 66 | 70 | 159 | 86 | 100 |
| 10 | 35 | 70 | 60 | 48 | 74 | 110 | 66 | 73 | 160 | 87 | 100 |
| 11 | 39 | 77 | 61 | 48 | 62 | 111 | 66 | 80 | 161 | 90 | 97 |
| 12 | 42 | 80 | 62 | 50 | 50 | 112 | 66 | 86 | 162 | 92 | 90 |
| 13 | 40 | 10 | 63 | 50 | 50 | 113 | 66 | 90 | 163 | 94 | 90 |
| 14 | 40 | 20 | 64 | 50 | 40 | 114 | 66 | 90 | 164 | 96 | 82 |
| 15 | 40 | 53 | 65 | 50 | 45 | 115 | 68 | 100 | 165 | 96 | 90 |
| 16 | 40 | 35 | 66 | 51 | 60 | 116 | 70 | 100 | 166 | 100 | 99 |
| 17 | 40 | 30 | 67 | 52 | 49 | 117 | 70 | 100 | 167 | 101 | 79 |
| 18 | 40 | 38 | 68 | 52 | 40 | 118 | 70 | 100 | 168 | 103 | 50 |
| 19 | 40 | 30 | 69 | 52 | 40 | 119 | 74 | 100 | 169 | 104 | 74 |
| 20 | 38 | 100 | 70 | 52 | 41 | 120 | 76 | 100 | 170 | 104 | 90 |
| 21 | 41 | 100 | 71 | 54 | 90 | 121 | 72 | 100 | 171 | 104 | 26 |
| 22 | 42 | 100 | 72 | 54 | 90 | 122 | 74 | 100 | 172 | 104 | 20 |
| 23 | 42 | 100 | 73 | 54 | 85 | 123 | 72 | 100 | 173 | 100 | 20 |
| 24 | 42 | 100 | 74 | 55 | 74 | 124 | 72 | 100 | 174 | 98 | 20 |
| 25 | 42 | 100 | 75 | 56 | 70 | 125 | 72 | 100 | 175 | 99 | 25 |
| 26 | 42 | 100 | 76 | 56 | 70 | 126 | 72 | 100 | 176 | 99 | 65 |
| 27 | 43 | 97 | 77 | 56 | 60 | 127 | 72 | 100 | 177 | 103 | 80 |
| 28 | 43 | 86 | 78 | 56 | 57 | 128 | 72 | 100 | 178 | 100 | 80 |
| 29 | 43 | 86 | 79 | 56 | 50 | 129 | 73 | 100 | 179 | 102 | 80 |
| 30 | 44 | 90 | 80 | 56 | 38 | 130 | 73 | 100 | 180 | 104 | 73 |
| 31 | 44 | 90 | 81 | 56 | 30 | 131 | 74 | 100 | 181 | 104 | 55 |
| 32 | 44 | 80 | 82 | 56 | 30 | 132 | 74 | 100 | 182 | 101 | 31 |
| 33 | 44 | 80 | 83 | 54 | 39 | 133 | 78 | 100 | 183 | 98 | 12 |
| 34 | 45 | 80 | 84 | 54 | 28 | 134 | 78 | 100 | 184 | 58 | M |
| 35 | 46 | 75 | 85 | 54 | 20 | 135 | 77 | 100 | 185 | 58 | M |
| 36 | 46 | 63 | 86 | 54 | 20 | 136 | 76 | 100 | 186 | 57 | M |
| 37 | 46 | 60 | 87 | 54 | 20 | 137 | 76 | 100 | 187 | 56 | M |
| 38 | 46 | 60 | 88 | 54 | 11 | 138 | 76 | 100 | 188 | 56 | M |
| 39 | 44 | 10 | 89 | 54 | 0 | 139 | 72 | 100 | 189 | 56 | 28 |
| 40 | 44 | 10 | 90 | 54 | 13 | 140 | 72 | 100 | 190 | 56 | 40 |
| 41 | 43 | 10 | 91 | 54 | 30 | 141 | 67 | 100 | 191 | 56 | 50 |
| 42 | 42 | 10 | 92 | 55 | 30 | 142 | 73 | 100 | 192 | 56 | 46 |
| 43 | 42 | 10 | 93 | 57 | 30 | 143 | 75 | 100 | 193 | 56 | 34 |
| 44 | 44 | 19 | 94 | 56 | 30 | 144 | 73 | 100 | 194 | 56 | 40 |
| 45 | 50 | 90 | 95 | 58 | 30 | 145 | 74 | 92 | 195 | 60 | 5 |
| 46 | 50 | 90 | 96 | 58 | 37 | 146 | 74 | 31 | 196 | 62 | M |
| 47 | 50 | 90 | 97 | 60 | 90 | 147 | 78 | 29 | 197 | 62 | M |
| 48 | 50 | 90 | 98 | 60 | 90 | 148 | 80 | 17 | 198 | 62 | 42 |
| 49 | 50 | 90 | 99 | 60 | 96 | 149 | 80 | 5 | 199 | 62 | 60 |
| 50 | 48 | 90 | 100 | 60 | 93 | 150 | 80 | M | 200 | 62 | 75 |

RPM AND POWER SCHEDULE FOR CYCLE 296644805 (CONTINUED)
ALL LA GAS FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 62 | 76 | 231 | 73 | 90 | 261 | 76 | 100 | 291 | 88 | M |
| 202 | 62 | 80 | 232 | 72 | 85 | 262 | 77 | 100 | 292 | 84 | M |
| 203 | 62 | 80 | 233 | 73 | 73 | 263 | 81 | 100 | 293 | 82 | 10 |
| 204 | 62 | 80 | 234 | 74 | 70 | 264 | 82 | 100 | 294 | 82 | 7 |
| 205 | 62 | 80 | 235 | 72 | 70 | 265 | 83 | 100 | 295 | 82 | M |
| 206 | 61 | 80 | 236 | 72 | 50 | 266 | 84 | 100 | 296 | 82 | M |
| 207 | 60 | 80 | 237 | 70 | 50 | 267 | 84 | 90 | 297 | 68 | 50 |
| 208 | 60 | 87 | 238 | 70 | 50 | 268 | 82 | 90 | 298 | 64 | 70 |
| 209 | 60 | 90 | 239 | 69 | 56 | 269 | 85 | 93 | 299 | 64 | 70 |
| 210 | 60 | 90 | 240 | 68 | 60 | 270 | 90 | 100 | 300 | 58 | 68 |
| 211 | 60 | 90 | 241 | 68 | 60 | 271 | 88 | 100 | 301 | 37 | 60 |
| 212 | 60 | 90 | 242 | 68 | 58 | 272 | 89 | 100 | 302 | 35 | 60 |
| 213 | 60 | 90 | 243 | 68 | 40 | 273 | 96 | 100 | 303 | 33 | 74 |
| 214 | 60 | 83 | 244 | 68 | 48 | 274 | 100 | 100 | 304 | 30 | 80 |
| 215 | 60 | 80 | 245 | 68 | 60 | 275 | 102 | 100 | 305 | 28 | 80 |
| 216 | 60 | 90 | 246 | 68 | 60 | 276 | 105 | 100 | 306 | 26 | 50 |
| 217 | 62 | 90 | 247 | 68 | 60 | 277 | 113 | 100 | 307 | 23 | 37 |
| 218 | 64 | 87 | 248 | 68 | 60 | 278 | 113 | 100 | 308 | 21 | 10 |
| 219 | 64 | 80 | 249 | 68 | 62 | 279 | 112 | 100 | 309 | 19 | 10 |
| 220 | 64 | 80 | 250 | 68 | 70 | 280 | 104 | M | 310 | 15 | M |
| 221 | 64 | 80 | 251 | 69 | 70 | 281 | 104 | M | 311 | 12 | M |
| 222 | 64 | 80 | 252 | 70 | 70 | 282 | 103 | M | 312 | 5 | M |
| 223 | 66 | 70 | 253 | 70 | 70 | 283 | 103 | M | 313 | 0 | 0 |
| 224 | 67 | 70 | 254 | 70 | 70 | 284 | 99 | M | 314 | 0 | 0 |
| 225 | 68 | 66 | 255 | 70 | 70 | 285 | 95 | M | 315 | 0 | 0 |
| 226 | 68 | 60 | 256 | 70 | 70 | 286 | 94 | M | 316 | 0 | 0 |
| 227 | 68 | 60 | 257 | 70 | 70 | 287 | 92 | M | | | |
| 228 | 73 | 87 | 258 | 74 | 70 | 288 | 93 | M | | | |
| 229 | 74 | 90 | 259 | 76 | 62 | 289 | 92 | M | | | |
| 230 | 74 | 90 | 260 | 76 | 60 | 290 | 91 | M | | | |

SUMMARY MEASURES FOR CYCLE 2038877989

GENERATED FROM INPUT MATRIX: ALL LA GAS NON-FREEWAY

CYCLE DURATION = 5.13 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .1508E 00 |
| UPPER | .9429E 00 |
| DIAGONAL | .7422E 00 |
| LOWER | .3217E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 30.90 | 30.68 |
| *** DIAGONAL | 14.33 | 15.91 |
| LOWER | 29.21 | 28.34 |
| IDLE | 25.56 | 25.08 |



POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 32.72 | 30.85 |
| % ACCEL | 14.61 | 15.64 |
| % DECEL | 18.26 | 17.99 |
| ** % CRUISE | 29.21 | 23.84 |
| % MOTORING | 10.96 | 13.86 |
| % ZERO | 26.97 | 28.66 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 27.04 | 26.20 |
| % ACCEL | 26.97 | 25.08 |
| % DECEL | 22.75 | 21.93 |
| ** % CRUISE | 21.63 | 24.26 |
| % ZERO | 28.65 | 28.72 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 2038877989
ALL LA GAS NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 40 | M | 151 | 0 | 0 |
| 2 | 0 | 0 | 52 | 0 | 0 | 102 | 38 | M | 152 | 0 | 0 |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 36 | M | 153 | 0 | 0 |
| 4 | 0 | 0 | 54 | 0 | 0 | 104 | 28 | M | 154 | 0 | 0 |
| 5 | 0 | 0 | 55 | 0 | 0 | 105 | 28 | M | 155 | 0 | 0 |
| 6 | 0 | 0 | 56 | 0 | 0 | 106 | 14 | M | 156 | 0 | 0 |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 6 | M | 157 | 0 | 0 |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 4 | M | 158 | 0 | 0 |
| 9 | 0 | 0 | 59 | 0 | 0 | 109 | 0 | 10 | 159 | 0 | 0 |
| 10 | 0 | 0 | 60 | 0 | 30 | 110 | -10 | 20 | 160 | 0 | 0 |
| 11 | 0 | 10 | 61 | 2 | 90 | 111 | 0 | 50 | 161 | 0 | 0 |
| 12 | 2 | 10 | 62 | 4 | 90 | 112 | 20 | 10 | 162 | 0 | 0 |
| 13 | 2 | 10 | 63 | 8 | 100 | 113 | 22 | 0 | 163 | 0 | 0 |
| 14 | 0 | 10 | 64 | 14 | 100 | 114 | 20 | 0 | 164 | 0 | 0 |
| 15 | 0 | 0 | 65 | 16 | 100 | 115 | 16 | M | 165 | 0 | 0 |
| 16 | 0 | 0 | 66 | 42 | 90 | 116 | 12 | M | 166 | 0 | 0 |
| 17 | 0 | 0 | 67 | 46 | 90 | 117 | 8 | 90 | 167 | 0 | 0 |
| 18 | 0 | 0 | 68 | 48 | 90 | 118 | 10 | 100 | 168 | 0 | 0 |
| 19 | 0 | 0 | 69 | 36 | 10 | 119 | 16 | 100 | 169 | 0 | 0 |
| 20 | 0 | 0 | 70 | 36 | M | 120 | 22 | 100 | 170 | 2 | 20 |
| 21 | 0 | 0 | 71 | 22 | 90 | 121 | 22 | 100 | 171 | 4 | 20 |
| 22 | 0 | 0 | 72 | 24 | 90 | 122 | 28 | 100 | 172 | 0 | 0 |
| 23 | 0 | 0 | 73 | 24 | 90 | 123 | 30 | 100 | 173 | 0 | 0 |
| 24 | 0 | 0 | 74 | 26 | 70 | 124 | 38 | 60 | 174 | 0 | 0 |
| 25 | 0 | 0 | 75 | 30 | 70 | 125 | 40 | M | 175 | 0 | 0 |
| 26 | 0 | 0 | 76 | 30 | 50 | 126 | 26 | M | 176 | 0 | 0 |
| 27 | 0 | 0 | 77 | 30 | 10 | 127 | 10 | M | 177 | 0 | 0 |
| 28 | 0 | 0 | 78 | 30 | 10 | 128 | 8 | M | 178 | 0 | 0 |
| 29 | 0 | 0 | 79 | 30 | 10 | 129 | 8 | M | 179 | 0 | 0 |
| 30 | 0 | 0 | 80 | 30 | 10 | 130 | 6 | M | 180 | 0 | 0 |
| 31 | 0 | 0 | 81 | 30 | 60 | 131 | 2 | M | 181 | 0 | 0 |
| 32 | 0 | 0 | 82 | 40 | 60 | 132 | 0 | M | 182 | 0 | 0 |
| 33 | 0 | 10 | 83 | 40 | 50 | 133 | 0 | M | 183 | 0 | 0 |
| 34 | 0 | 10 | 84 | 42 | 50 | 134 | 0 | 0 | 184 | 0 | 0 |
| 35 | 0 | 20 | 85 | 40 | 50 | 135 | 0 | 0 | 185 | 10 | 30 |
| 36 | 0 | 20 | 86 | 40 | 50 | 136 | 0 | 0 | 186 | 46 | 40 |
| 37 | 0 | 20 | 87 | 42 | 50 | 137 | 0 | 0 | 187 | 44 | 10 |
| 38 | 0 | 30 | 88 | 42 | 50 | 138 | 0 | 0 | 188 | 42 | 10 |
| 39 | 12 | 40 | 89 | 46 | 50 | 139 | 0 | 0 | 189 | 40 | 10 |
| 40 | 24 | 30 | 90 | 46 | 50 | 140 | 0 | 0 | 190 | 34 | 10 |
| 41 | 24 | 20 | 91 | 54 | 50 | 141 | 0 | 0 | 191 | 28 | 20 |
| 42 | 24 | 10 | 92 | 66 | 70 | 142 | 0 | 0 | 192 | 28 | 50 |
| 43 | 18 | 10 | 93 | 68 | 70 | 143 | 0 | 0 | 193 | 30 | 30 |
| 44 | 18 | M | 94 | 72 | 70 | 144 | 0 | 0 | 194 | 30 | 30 |
| 45 | 18 | M | 95 | 72 | 70 | 145 | 0 | 0 | 195 | 30 | 30 |
| 46 | 12 | M | 96 | 72 | 70 | 146 | 0 | 0 | 196 | 30 | 30 |
| 47 | 2 | M | 97 | 74 | 40 | 147 | 0 | 0 | 197 | 36 | 30 |
| 48 | 0 | 0 | 98 | 78 | M | 148 | 0 | 0 | 198 | 36 | 30 |
| 49 | 0 | 0 | 99 | 54 | M | 149 | 0 | 0 | 199 | 36 | 30 |
| 50 | 0 | 0 | 100 | 46 | M | 150 | 0 | 0 | 200 | 42 | 30 |

RPM AND POWER SCHEDULE FOR CYCLE 2038877989 (CONTINUED)
ALL LA GAS NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 50 | 30 | 241 | 38 | 0 | 281 | 88 | 40 | 321 | 36 | 30 |
| 202 | 50 | 30 | 242 | 34 | 80 | 282 | 90 | 20 | 322 | 36 | 40 |
| 203 | 50 | 20 | 243 | 36 | 80 | 283 | 90 | 10 | 323 | 36 | 40 |
| 204 | 50 | 20 | 244 | 38 | 70 | 284 | 92 | 40 | 324 | 34 | 40 |
| 205 | 50 | M | 245 | 42 | 60 | 285 | 92 | 30 | 325 | 34 | 40 |
| 206 | 38 | M | 246 | 44 | 60 | 286 | 94 | 30 | 326 | 34 | 40 |
| 207 | 36 | M | 247 | 44 | 50 | 287 | 90 | M | 327 | 34 | 30 |
| 208 | 32 | M | 248 | 52 | 30 | 288 | 66 | 40 | 328 | 42 | 20 |
| 209 | 28 | M | 249 | 52 | 30 | 289 | 66 | 50 | 329 | 44 | 80 |
| 210 | 26 | M | 250 | 32 | M | 290 | 70 | 70 | 330 | 52 | 40 |
| 211 | 26 | 0 | 251 | 26 | 0 | 291 | 90 | 40 | 331 | 52 | 20 |
| 212 | 26 | M | 252 | 24 | 0 | 292 | 96 | 80 | 332 | 52 | 0 |
| 213 | 20 | M | 253 | 24 | 0 | 293 | 98 | 60 | 333 | 54 | 0 |
| 214 | 14 | M | 254 | 24 | M | 294 | 94 | 60 | 334 | 48 | 10 |
| 215 | 14 | 10 | 255 | 18 | M | 295 | 88 | M | 335 | 48 | 10 |
| 216 | 12 | 40 | 256 | 8 | 90 | 296 | 70 | M | 336 | 48 | 10 |
| 217 | 6 | 70 | 257 | 8 | 80 | 297 | 70 | M | 337 | 48 | 10 |
| 218 | 14 | 90 | 258 | 10 | 80 | 298 | 68 | M | 338 | 30 | 20 |
| 219 | 16 | 100 | 259 | 12 | 90 | 299 | 66 | M | 339 | 28 | 20 |
| 220 | 20 | 100 | 260 | 18 | 90 | 300 | 64 | M | 340 | 28 | 20 |
| 221 | 20 | 100 | 261 | 18 | 100 | 301 | 52 | 50 | 341 | 28 | 20 |
| 222 | 24 | 100 | 262 | 22 | 100 | 302 | 52 | 50 | 342 | 28 | 10 |
| 223 | 32 | 100 | 263 | 22 | 100 | 303 | 62 | 40 | 343 | 28 | 10 |
| 224 | 40 | 100 | 264 | 24 | 90 | 304 | 62 | 40 | 344 | 26 | 10 |
| 225 | 44 | 90 | 265 | 28 | 90 | 305 | 62 | 50 | 345 | 26 | 10 |
| 226 | 44 | 90 | 266 | 30 | 90 | 306 | 66 | 40 | 346 | 24 | M |
| 227 | 46 | 90 | 267 | 30 | 70 | 307 | 48 | M | 347 | 18 | M |
| 228 | 52 | 60 | 268 | 38 | 100 | 308 | 46 | 20 | 348 | 16 | M |
| 229 | 50 | 60 | 269 | 28 | 100 | 309 | 46 | 20 | 349 | 4 | M |
| 230 | 50 | 60 | 270 | 36 | 100 | 310 | 46 | 10 | 350 | 0 | 0 |
| 231 | 54 | 70 | 271 | 36 | 100 | 311 | 44 | 10 | 351 | 0 | 0 |
| 232 | 56 | 70 | 272 | 52 | 100 | 312 | 50 | 10 | 352 | 0 | 0 |
| 233 | 56 | 70 | 273 | 60 | 100 | 313 | 46 | 10 | 353 | 0 | 0 |
| 234 | 64 | 30 | 274 | 64 | 70 | 314 | 44 | 0 | 354 | 0 | 0 |
| 235 | 72 | 30 | 275 | 64 | 70 | 315 | 50 | M | 355 | 0 | 0 |
| 236 | 76 | 50 | 276 | 66 | 70 | 316 | 52 | 70 | 356 | 0 | 0 |
| 237 | 78 | 50 | 277 | 82 | 70 | 317 | 48 | M | | | |
| 238 | 78 | 50 | 278 | 82 | 70 | 318 | 44 | M | | | |
| 239 | 78 | 30 | 279 | 86 | 50 | 319 | 16 | 60 | | | |
| 240 | 40 | 0 | 280 | 86 | 50 | 320 | 20 | 50 | | | |

RPM AND POWER SCHEDULE FOR CYCLE 2038877989
ALL LA GAS NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 1 | 101 | 8 | 80 | 151 | 0 | 0 |
| 2 | 0 | 0 | 52 | 0 | 41 | 102 | 10 | 100 | 152 | 0 | 0 |
| 3 | 0 | 0 | 53 | 3 | 90 | 103 | 17 | 100 | 153 | 0 | 0 |
| 4 | 0 | 0 | 54 | 6 | 95 | 104 | 22 | 100 | 154 | 0 | 0 |
| 5 | 0 | 0 | 55 | 12 | 100 | 105 | 25 | 100 | 155 | 0 | 0 |
| 6 | 0 | 0 | 56 | 16 | 100 | 106 | 29 | 100 | 156 | 0 | 0 |
| 7 | 0 | 0 | 57 | 41 | 90 | 107 | 37 | 66 | 157 | 0 | 0 |
| 8 | 0 | 0 | 58 | 46 | 90 | 108 | 40 | M | 158 | 0 | 0 |
| 9 | 0 | 4 | 59 | 45 | 67 | 109 | 23 | M | 159 | 0 | 1 |
| 10 | 1 | 10 | 60 | 36 | 1 | 110 | 9 | M | 160 | 17 | 32 |
| 11 | 2 | 10 | 61 | 28 | 50 | 111 | 8 | M | 161 | 45 | 30 |
| 12 | 0 | 10 | 62 | 24 | 90 | 112 | 7 | M | 162 | 43 | 10 |
| 13 | 0 | 0 | 63 | 24 | 90 | 113 | 3 | M | 163 | 41 | 10 |
| 14 | 0 | 0 | 64 | 26 | 70 | 114 | 0 | M | 164 | 35 | 10 |
| 15 | 0 | 0 | 65 | 30 | 65 | 115 | 0 | M | 165 | 28 | 20 |
| 16 | 0 | 0 | 66 | 30 | 34 | 116 | 0 | 0 | 166 | 28 | 47 |
| 17 | 0 | 0 | 67 | 30 | 10 | 117 | 0 | 0 | 167 | 30 | 30 |
| 18 | 0 | 0 | 68 | 30 | 10 | 118 | 0 | 0 | 168 | 30 | 30 |
| 19 | 0 | 0 | 69 | 30 | 10 | 119 | 0 | 0 | 169 | 30 | 30 |
| 20 | 0 | 0 | 70 | 30 | 60 | 120 | 0 | 0 | 170 | 35 | 30 |
| 21 | 0 | 0 | 71 | 40 | 58 | 121 | 0 | 0 | 171 | 36 | 30 |
| 22 | 0 | 0 | 72 | 41 | 50 | 122 | 0 | 0 | 172 | 36 | 30 |
| 23 | 0 | 0 | 73 | 41 | 50 | 123 | 0 | 0 | 173 | 44 | 30 |
| 24 | 0 | 0 | 74 | 40 | 50 | 124 | 0 | 0 | 174 | 50 | 30 |
| 25 | 0 | 0 | 75 | 42 | 50 | 125 | 0 | 0 | 175 | 50 | 25 |
| 26 | 0 | 0 | 76 | 42 | 50 | 126 | 0 | 0 | 176 | 50 | 20 |
| 27 | 0 | 0 | 77 | 46 | 50 | 127 | 0 | 0 | 177 | 50 | M |
| 28 | 0 | 4 | 78 | 48 | 50 | 128 | 0 | 0 | 178 | 38 | M |
| 29 | 0 | 10 | 79 | 55 | 59 | 129 | 0 | 0 | 179 | 35 | M |
| 30 | 0 | 17 | 80 | 67 | 70 | 130 | 0 | 0 | 180 | 31 | M |
| 31 | 0 | 20 | 81 | 71 | 70 | 131 | 0 | 0 | 181 | 27 | M |
| 32 | 0 | 20 | 82 | 72 | 70 | 132 | 0 | 0 | 182 | 26 | M |
| 33 | 2 | 32 | 83 | 72 | 68 | 133 | 0 | 0 | 183 | 26 | M |
| 34 | 16 | 36 | 84 | 75 | 29 | 134 | 0 | 0 | 184 | 20 | M |
| 35 | 24 | 25 | 85 | 69 | M | 135 | 0 | 0 | 185 | 14 | M |
| 36 | 24 | 13 | 86 | 50 | M | 136 | 0 | 0 | 186 | 13 | 18 |
| 37 | 19 | 10 | 87 | 42 | M | 137 | 0 | 0 | 187 | 9 | 53 |
| 38 | 18 | M | 88 | 38 | M | 138 | 0 | 0 | 188 | 11 | 82 |
| 39 | 17 | M | 89 | 36 | M | 139 | 0 | 0 | 189 | 16 | 98 |
| 40 | 9 | M | 90 | 28 | M | 140 | 0 | 0 | 190 | 20 | 100 |
| 41 | 1 | M | 91 | 23 | M | 141 | 0 | 0 | 191 | 20 | 100 |
| 42 | 0 | 0 | 92 | 10 | M | 142 | 0 | 0 | 192 | 26 | 100 |
| 43 | 0 | 0 | 93 | 5 | M | 143 | 0 | 0 | 193 | 35 | 100 |
| 44 | 0 | 0 | 94 | 1 | 6 | 144 | 0 | 0 | 194 | 42 | 95 |
| 45 | 0 | 0 | 95 | -9 | 20 | 145 | 0 | 0 | 195 | 44 | 90 |
| 46 | 0 | 0 | 96 | 2 | 46 | 146 | 0 | 0 | 196 | 46 | 90 |
| 47 | 0 | 0 | 97 | 21 | 7 | 147 | 2 | 20 | 197 | 52 | 60 |
| 48 | 0 | 0 | 98 | 21 | 0 | 148 | 3 | 14 | 198 | 50 | 60 |
| 49 | 0 | 0 | 99 | 18 | M | 149 | 0 | 0 | 199 | 51 | 63 |
| 50 | 0 | 0 | 100 | 13 | M | 150 | 0 | 0 | 200 | 55 | 70 |

RPM AND POWER SCHEDULE FOR CYCLE 2038877989 (CONTINUED)
ALL LA GAS NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 56 | 70 | 229 | 28 | 90 | 257 | 69 | M | 285 | 51 | 46 |
| 202 | 62 | 38 | 230 | 30 | 86 | 258 | 67 | M | 286 | 52 | 20 |
| 203 | 72 | 30 | 231 | 33 | 81 | 259 | 64 | M | 287 | 52 | 0 |
| 204 | 76 | 50 | 232 | 33 | 100 | 260 | 53 | 46 | 288 | 52 | 3 |
| 205 | 78 | 50 | 233 | 33 | 100 | 261 | 53 | 49 | 289 | 48 | 10 |
| 206 | 78 | 41 | 234 | 36 | 100 | 262 | 62 | 40 | 290 | 48 | 10 |
| 207 | 56 | 12 | 235 | 52 | 100 | 263 | 62 | 44 | 291 | 48 | 10 |
| 208 | 39 | 0 | 236 | 61 | 96 | 264 | 64 | 44 | 292 | 31 | 20 |
| 209 | 34 | 72 | 237 | 64 | 70 | 265 | 53 | 4 | 293 | 28 | 20 |
| 210 | 36 | 79 | 238 | 65 | 70 | 266 | 46 | 16 | 294 | 28 | 20 |
| 211 | 39 | 68 | 239 | 76 | 70 | 267 | 46 | 20 | 295 | 28 | 16 |
| 212 | 43 | 60 | 240 | 82 | 70 | 268 | 46 | 10 | 296 | 28 | 10 |
| 213 | 44 | 55 | 241 | 86 | 51 | 269 | 46 | 10 | 297 | 26 | 10 |
| 214 | 49 | 36 | 242 | 86 | 49 | 270 | 48 | 10 | 298 | 26 | 10 |
| 215 | 52 | 30 | 243 | 89 | 35 | 271 | 45 | 3 | 299 | 24 | M |
| 216 | 32 | M | 244 | 90 | 16 | 272 | 49 | M | 300 | 18 | M |
| 217 | 26 | 0 | 245 | 91 | 27 | 273 | 52 | 68 | 301 | 11 | M |
| 218 | 24 | 0 | 246 | 92 | 33 | 274 | 47 | M | 302 | 2 | M |
| 219 | 24 | M | 247 | 94 | 30 | 275 | 36 | 10 | 303 | 0 | 0 |
| 220 | 20 | M | 248 | 89 | M | 276 | 18 | 56 | 304 | 0 | 0 |
| 221 | 10 | 69 | 249 | 66 | 42 | 277 | 30 | 38 | 305 | 0 | 0 |
| 222 | 8 | 81 | 250 | 67 | 57 | 278 | 36 | 38 | 306 | 0 | 0 |
| 223 | 10 | 81 | 251 | 80 | 55 | 279 | 36 | 40 | 307 | 0 | 0 |
| 224 | 14 | 90 | 252 | 94 | 67 | 280 | 34 | 40 | 308 | 0 | 0 |
| 225 | 18 | 94 | 253 | 98 | 64 | 281 | 34 | 40 | | | |
| 226 | 20 | 100 | 254 | 94 | 60 | 282 | 34 | 36 | | | |
| 227 | 22 | 100 | 255 | 85 | M | 283 | 38 | 25 | | | |
| 228 | 24 | 91 | 256 | 70 | M | 284 | 43 | 62 | | | |

SUMMARY MEASURES FOR CYCLE 1996345415

GENERATED FROM INPUT MATRIX: LA ALL DIESEL FREEWAY

CYCLE DURATION = 5.01 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .4207E 00 |
| UPPER | .7583E 00 |
| DIAGONAL | .1746E 00 |
| LOWER | .5853E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 36.78 | 36.37 |
| *** DIAGONAL | 24.43 | 26.87 |
| LOWER | 36.49 | 34.80 |
| IDLE | 2.30 | 1.97 |

POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 56.47 | 53.72 |
| % ACCEL | 22.13 | 21.59 |
| % DECEL | 22.70 | 21.72 |
| ** % CRUISE | 40.80 | 38.29 |
| % MOTORING | 11.78 | 15.79 |
| % ZERO | 2.59 | 2.60 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 82.69 | 83.87 |
| % ACCEL | 26.72 | 25.97 |
| % DECEL | 25.00 | 25.89 |
| ** % CRUISE | 45.98 | 48.45 |
| % ZERO | 2.30 | 2.09 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 1599345415
ALL LA DSL FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 88 | 80 | 101 | 86 | 30 | 151 | 88 | 50 |
| 2 | 0 | 0 | 52 | 88 | 80 | 102 | 86 | 30 | 152 | 86 | 50 |
| 3 | 0 | 0 | 53 | 88 | 70 | 103 | 86 | 30 | 153 | 88 | 40 |
| 4 | 0 | 0 | 54 | 88 | 100 | 104 | 86 | 40 | 154 | 88 | 50 |
| 5 | 4 | 10 | 55 | 88 | 100 | 105 | 84 | 40 | 155 | 86 | 50 |
| 6 | 12 | 20 | 56 | 88 | 90 | 106 | 86 | 40 | 156 | 86 | 60 |
| 7 | 14 | 20 | 57 | 88 | 90 | 107 | 86 | 30 | 157 | 86 | 90 |
| 8 | 20 | 20 | 58 | 88 | 90 | 108 | 88 | 30 | 158 | 86 | 70 |
| 9 | 22 | 20 | 59 | 90 | 90 | 109 | 88 | 20 | 159 | 88 | 70 |
| 10 | 30 | 30 | 60 | 90 | 90 | 110 | 86 | M | 160 | 90 | 80 |
| 11 | 38 | 0 | 61 | 88 | 90 | 111 | 84 | M | 161 | 92 | 90 |
| 12 | 42 | M | 62 | 90 | 90 | 112 | 82 | M | 162 | 90 | 90 |
| 13 | 50 | M | 63 | 90 | 90 | 113 | 80 | M | 163 | 92 | 80 |
| 14 | 68 | 10 | 64 | 90 | 90 | 114 | 84 | M | 164 | 92 | 80 |
| 15 | 68 | 10 | 65 | 92 | 80 | 115 | 86 | M | 165 | 94 | 80 |
| 16 | 68 | 30 | 66 | 92 | 80 | 116 | 84 | M | 166 | 94 | 80 |
| 17 | 66 | 40 | 67 | 90 | 80 | 117 | 82 | M | 167 | 94 | 80 |
| 18 | 66 | 40 | 68 | 90 | 90 | 118 | 80 | M | 168 | 94 | 80 |
| 19 | 68 | 40 | 69 | 88 | 100 | 119 | 78 | M | 169 | 94 | 80 |
| 20 | 68 | 40 | 70 | 86 | 100 | 120 | 76 | 10 | 170 | 94 | 80 |
| 21 | 68 | 50 | 71 | 86 | 100 | 121 | 76 | 0 | 171 | 94 | 90 |
| 22 | 76 | 100 | 72 | 86 | 100 | 122 | 82 | 0 | 172 | 96 | 80 |
| 23 | 78 | 100 | 73 | 90 | 100 | 123 | 72 | 40 | 173 | 96 | 30 |
| 24 | 78 | 100 | 74 | 90 | 100 | 124 | 72 | 40 | 174 | 96 | 50 |
| 25 | 78 | 100 | 75 | 90 | 90 | 125 | 72 | 40 | 175 | 96 | 40 |
| 26 | 76 | 100 | 76 | 92 | 90 | 126 | 74 | 40 | 176 | 96 | 40 |
| 27 | 76 | 100 | 77 | 94 | 90 | 127 | 74 | 30 | 177 | 96 | 40 |
| 28 | 76 | 100 | 78 | 96 | 90 | 128 | 74 | 30 | 178 | 96 | 20 |
| 29 | 76 | 100 | 79 | 102 | 80 | 129 | 74 | 30 | 179 | 96 | M |
| 30 | 76 | 100 | 80 | 102 | 80 | 130 | 74 | 40 | 180 | 96 | M |
| 31 | 72 | 100 | 81 | 102 | 70 | 131 | 72 | 50 | 181 | 96 | M |
| 32 | 76 | 90 | 82 | 102 | 80 | 132 | 68 | 60 | 182 | 96 | M |
| 33 | 78 | 90 | 83 | 102 | 80 | 133 | 74 | 50 | 183 | 98 | 10 |
| 34 | 82 | 90 | 84 | 88 | M | 134 | 72 | 50 | 184 | 100 | 20 |
| 35 | 84 | 90 | 85 | 86 | M | 135 | 74 | 50 | 185 | 102 | 10 |
| 36 | 84 | 100 | 86 | 86 | M | 136 | 74 | 40 | 186 | 102 | 20 |
| 37 | 84 | 100 | 87 | 70 | 30 | 137 | 72 | 70 | 187 | 102 | 40 |
| 38 | 84 | 100 | 88 | 76 | 40 | 138 | 78 | 60 | 188 | 104 | 60 |
| 39 | 82 | 100 | 89 | 76 | 50 | 139 | 82 | 60 | 189 | 104 | 60 |
| 40 | 82 | 100 | 90 | 74 | 40 | 140 | 80 | 60 | 190 | 102 | 60 |
| 41 | 84 | 90 | 91 | 78 | 30 | 141 | 84 | 60 | 191 | 104 | 60 |
| 42 | 88 | 90 | 92 | 78 | 40 | 142 | 82 | 60 | 192 | 104 | 40 |
| 43 | 90 | 90 | 93 | 82 | 40 | 143 | 86 | 50 | 193 | 104 | 40 |
| 44 | 90 | 100 | 94 | 76 | 50 | 144 | 86 | 50 | 194 | 104 | M |
| 45 | 90 | 100 | 95 | 82 | 50 | 145 | 88 | 50 | 195 | 102 | 0 |
| 46 | 86 | 100 | 96 | 82 | 40 | 146 | 86 | 50 | 196 | 100 | M |
| 47 | 86 | 100 | 97 | 84 | 30 | 147 | 86 | 40 | 197 | 100 | M |
| 48 | 86 | 90 | 98 | 84 | 20 | 148 | 88 | 60 | 198 | 102 | 50 |
| 49 | 88 | 90 | 99 | 84 | 10 | 149 | 90 | 70 | 199 | 102 | 40 |
| 50 | 88 | 90 | 100 | 84 | 20 | 150 | 86 | 50 | 200 | 102 | M |

RPM AND POWER SCHEDULE FOR CYCLE 1599345415 (CONTINUED)
ALL LA DSL FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 102 | M | 239 | 80 | 90 | 277 | 104 | 70 | 315 | 90 | 50 |
| 202 | 102 | M | 240 | 76 | 90 | 278 | 104 | 60 | 316 | 88 | 40 |
| 203 | 100 | M | 241 | 74 | 70 | 279 | 104 | 70 | 317 | 86 | 30 |
| 204 | 102 | M | 242 | 78 | 80 | 280 | 106 | 70 | 318 | 88 | 30 |
| 205 | 100 | M | 243 | 82 | 80 | 281 | 106 | 70 | 319 | 88 | 40 |
| 206 | 98 | M | 244 | 80 | 80 | 282 | 106 | 40 | 320 | 86 | 50 |
| 207 | 96 | M | 245 | 82 | 80 | 283 | 106 | 40 | 321 | 84 | 50 |
| 208 | 96 | 10 | 246 | 82 | 90 | 284 | 104 | 40 | 322 | 82 | 50 |
| 209 | 96 | 10 | 247 | 84 | 70 | 285 | 104 | 30 | 323 | 82 | 50 |
| 210 | 96 | M | 248 | 84 | 70 | 286 | 104 | 30 | 324 | 82 | 40 |
| 211 | 96 | M | 249 | 84 | 60 | 287 | 104 | 0 | 325 | 84 | 40 |
| 212 | 96 | M | 250 | 84 | 50 | 288 | 104 | 10 | 326 | 80 | 20 |
| 213 | 94 | M | 251 | 86 | 60 | 289 | 102 | 20 | 327 | 80 | 20 |
| 214 | 78 | M | 252 | 86 | 60 | 290 | 98 | 0 | 328 | 88 | 80 |
| 215 | 78 | M | 253 | 86 | 60 | 291 | 98 | 10 | 329 | 86 | 60 |
| 216 | 76 | M | 254 | 86 | 80 | 292 | 96 | 10 | 330 | 84 | 60 |
| 217 | 66 | 80 | 255 | 90 | 70 | 293 | 96 | M | 331 | 82 | 10 |
| 218 | 68 | 80 | 256 | 88 | 70 | 294 | 96 | M | 332 | 80 | 0 |
| 219 | 66 | 90 | 257 | 88 | 70 | 295 | 96 | M | 333 | 76 | 10 |
| 220 | 72 | 90 | 258 | 94 | 70 | 296 | 96 | M | 334 | 74 | 40 |
| 221 | 74 | 90 | 259 | 94 | 80 | 297 | 94 | M | 335 | 72 | 40 |
| 222 | 76 | 90 | 260 | 96 | 80 | 298 | 94 | M | 336 | 70 | M |
| 223 | 74 | 100 | 261 | 94 | 80 | 299 | 94 | M | 337 | 68 | M |
| 224 | 76 | 100 | 262 | 96 | 80 | 300 | 96 | 10 | 338 | 46 | 10 |
| 225 | 78 | 90 | 263 | 94 | 80 | 301 | 98 | M | 339 | 36 | 10 |
| 226 | 80 | 80 | 264 | 94 | 80 | 302 | 98 | M | 340 | 34 | 10 |
| 227 | 80 | 70 | 265 | 94 | 80 | 303 | 98 | M | 341 | 30 | 0 |
| 228 | 80 | 70 | 266 | 94 | 30 | 304 | 98 | M | 342 | 28 | M |
| 229 | 82 | 60 | 267 | 94 | 40 | 305 | 96 | M | 343 | 8 | M |
| 230 | 84 | 50 | 268 | 94 | 50 | 306 | 96 | 20 | 344 | 0 | 0 |
| 231 | 84 | 50 | 269 | 94 | 70 | 307 | 96 | 10 | 345 | 0 | 0 |
| 232 | 84 | 70 | 270 | 94 | 60 | 308 | 96 | 10 | 346 | 0 | 0 |
| 233 | 84 | 80 | 271 | 94 | 80 | 309 | 96 | 10 | 347 | 0 | 0 |
| 234 | 84 | 80 | 272 | 94 | 90 | 310 | 92 | 10 | 348 | 0 | 0 |
| 235 | 84 | 70 | 273 | 94 | 90 | 311 | 92 | 10 | | | |
| 236 | 82 | 80 | 274 | 96 | 90 | 312 | 92 | 10 | | | |
| 237 | 82 | 80 | 275 | 102 | 80 | 313 | 94 | 20 | | | |
| 238 | 80 | 90 | 276 | 104 | 80 | 314 | 94 | 10 | | | |

RPM AND POWER SCHEDULE FOR CYCLE 1599345415
ALL LA DSL FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 90 | 90 | 101 | 82 | M | 151 | 96 | 42 |
| 2 | 0 | 0 | 52 | 90 | 90 | 102 | 80 | M | 152 | 96 | 40 |
| 3 | 0 | 0 | 53 | 89 | 90 | 103 | 78 | M | 153 | 96 | 38 |
| 4 | 3 | 6 | 54 | 90 | 90 | 104 | 76 | 6 | 154 | 96 | 13 |
| 5 | 10 | 18 | 55 | 90 | 90 | 105 | 79 | 0 | 155 | 96 | M |
| 6 | 14 | 20 | 56 | 92 | 82 | 106 | 75 | 27 | 156 | 96 | M |
| 7 | 20 | 20 | 57 | 92 | 80 | 107 | 72 | 40 | 157 | 96 | M |
| 8 | 24 | 23 | 58 | 90 | 81 | 108 | 72 | 40 | 158 | 98 | 7 |
| 9 | 33 | 17 | 59 | 89 | 93 | 109 | 74 | 38 | 159 | 100 | 20 |
| 10 | 40 | M | 60 | 87 | 100 | 110 | 74 | 30 | 160 | 102 | 12 |
| 11 | 48 | M | 61 | 86 | 100 | 111 | 74 | 30 | 161 | 102 | 27 |
| 12 | 66 | 8 | 62 | 86 | 100 | 112 | 74 | 36 | 162 | 103 | 50 |
| 13 | 68 | 11 | 63 | 90 | 100 | 113 | 72 | 48 | 163 | 104 | 60 |
| 14 | 68 | 32 | 64 | 90 | 99 | 114 | 68 | 59 | 164 | 102 | 60 |
| 15 | 66 | 40 | 65 | 90 | 90 | 115 | 74 | 50 | 165 | 104 | 60 |
| 16 | 67 | 40 | 66 | 93 | 90 | 116 | 73 | 50 | 166 | 104 | 40 |
| 17 | 68 | 40 | 67 | 95 | 90 | 117 | 74 | 46 | 167 | 104 | 26 |
| 18 | 68 | 48 | 68 | 100 | 83 | 118 | 73 | 57 | 168 | 103 | M |
| 19 | 76 | 100 | 69 | 102 | 80 | 119 | 76 | 63 | 169 | 101 | M |
| 20 | 78 | 100 | 70 | 102 | 70 | 120 | 82 | 60 | 170 | 100 | M |
| 21 | 78 | 100 | 71 | 102 | 80 | 121 | 80 | 60 | 171 | 102 | 45 |
| 22 | 77 | 100 | 72 | 97 | 50 | 122 | 84 | 60 | 172 | 102 | 36 |
| 23 | 76 | 100 | 73 | 87 | M | 123 | 83 | 56 | 173 | 102 | M |
| 24 | 76 | 100 | 74 | 86 | M | 124 | 86 | 50 | 174 | 102 | M |
| 25 | 76 | 100 | 75 | 73 | 22 | 125 | 87 | 50 | 175 | 101 | M |
| 26 | 76 | 100 | 76 | 76 | 40 | 126 | 86 | 50 | 176 | 101 | M |
| 27 | 73 | 97 | 77 | 76 | 49 | 127 | 86 | 40 | 177 | 100 | M |
| 28 | 77 | 90 | 78 | 75 | 37 | 128 | 88 | 61 | 178 | 98 | M |
| 29 | 80 | 90 | 79 | 78 | 34 | 129 | 89 | 64 | 179 | 96 | M |
| 30 | 83 | 90 | 80 | 80 | 40 | 130 | 87 | 50 | 180 | 96 | 10 |
| 31 | 84 | 99 | 81 | 77 | 48 | 131 | 87 | 50 | 181 | 96 | 0 |
| 32 | 84 | 100 | 82 | 81 | 50 | 132 | 88 | 42 | 182 | 96 | M |
| 33 | 84 | 100 | 83 | 82 | 39 | 133 | 88 | 49 | 183 | 96 | M |
| 34 | 82 | 100 | 84 | 84 | 28 | 134 | 86 | 51 | 184 | 94 | M |
| 35 | 83 | 95 | 85 | 84 | 16 | 135 | 86 | 68 | 185 | 78 | M |
| 36 | 87 | 90 | 86 | 84 | 15 | 136 | 86 | 82 | 186 | 77 | M |
| 37 | 90 | 90 | 87 | 85 | 27 | 137 | 87 | 70 | 187 | 72 | 29 |
| 38 | 90 | 100 | 88 | 86 | 30 | 138 | 89 | 77 | 188 | 67 | 80 |
| 39 | 89 | 100 | 89 | 86 | 30 | 139 | 92 | 89 | 189 | 66 | 88 |
| 40 | 86 | 100 | 90 | 86 | 40 | 140 | 90 | 90 | 190 | 71 | 90 |
| 41 | 86 | 95 | 91 | 85 | 40 | 141 | 92 | 80 | 191 | 74 | 90 |
| 42 | 87 | 90 | 92 | 86 | 35 | 142 | 93 | 80 | 192 | 76 | 92 |
| 43 | 88 | 90 | 93 | 87 | 30 | 143 | 94 | 80 | 193 | 75 | 100 |
| 44 | 88 | 81 | 94 | 88 | 22 | 144 | 94 | 80 | 194 | 77 | 95 |
| 45 | 88 | 79 | 95 | 86 | M | 145 | 94 | 80 | 195 | 79 | 83 |
| 46 | 88 | 77 | 96 | 84 | M | 146 | 94 | 80 | 196 | 80 | 71 |
| 47 | 88 | 100 | 97 | 81 | M | 147 | 94 | 81 | 197 | 80 | 70 |
| 48 | 88 | 94 | 98 | 82 | M | 148 | 95 | 87 | 198 | 82 | 58 |
| 49 | 88 | 90 | 99 | 85 | M | 149 | 96 | 57 | 199 | 84 | 50 |
| 50 | 88 | 90 | 100 | 85 | M | 150 | 96 | 42 | 200 | 84 | 60 |

RPM AND POWER SCHEDULE FOR CYCLE 1599345415 (CONTINUED)
ALL LA DSL FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 84 | 76 | 227 | 95 | 80 | 253 | 96 | M | 279 | 82 | 50 |
| 202 | 84 | 80 | 228 | 94 | 80 | 254 | 96 | M | 280 | 82 | 40 |
| 203 | 84 | 70 | 229 | 94 | 78 | 255 | 96 | M | 281 | 83 | 35 |
| 204 | 82 | 80 | 230 | 94 | 32 | 256 | 95 | M | 282 | 80 | 20 |
| 205 | 81 | 83 | 231 | 94 | 44 | 257 | 94 | M | 283 | 84 | 53 |
| 206 | 80 | 90 | 232 | 94 | 60 | 258 | 94 | M | 284 | 87 | 66 |
| 207 | 78 | 90 | 233 | 94 | 63 | 259 | 96 | 5 | 285 | 84 | 60 |
| 208 | 75 | 75 | 234 | 94 | 77 | 260 | 98 | M | 286 | 82 | 10 |
| 209 | 78 | 79 | 235 | 94 | 90 | 261 | 98 | M | 287 | 79 | 2 |
| 210 | 82 | 80 | 236 | 94 | 90 | 262 | 98 | M | 288 | 75 | 20 |
| 211 | 80 | 80 | 237 | 98 | 87 | 263 | 97 | M | 289 | 73 | 40 |
| 212 | 82 | 84 | 238 | 103 | 80 | 264 | 96 | 7 | 290 | 71 | 8 |
| 213 | 83 | 79 | 239 | 104 | 74 | 265 | 96 | 13 | 291 | 68 | M |
| 214 | 84 | 70 | 240 | 104 | 62 | 266 | 96 | 10 | 292 | 47 | 9 |
| 215 | 84 | 62 | 241 | 104 | 69 | 267 | 96 | 10 | 293 | 36 | 10 |
| 216 | 84 | 50 | 242 | 106 | 70 | 268 | 92 | 10 | 294 | 33 | 7 |
| 217 | 86 | 60 | 243 | 106 | 62 | 269 | 92 | 10 | 295 | 29 | M |
| 218 | 86 | 60 | 244 | 106 | 40 | 270 | 93 | 15 | 296 | 16 | M |
| 219 | 86 | 69 | 245 | 105 | 40 | 271 | 94 | 13 | 297 | 2 | M |
| 220 | 89 | 74 | 246 | 104 | 33 | 272 | 91 | 43 | 298 | 0 | 0 |
| 221 | 88 | 70 | 247 | 104 | 30 | 273 | 88 | 40 | 299 | 0 | 0 |
| 222 | 88 | 70 | 248 | 104 | 0 | 274 | 86 | 30 | 300 | 0 | 0 |
| 223 | 94 | 71 | 249 | 104 | 12 | 275 | 88 | 33 | 301 | 0 | 0 |
| 224 | 95 | 80 | 250 | 101 | 13 | 276 | 87 | 44 | | | |
| 225 | 95 | 80 | 251 | 98 | 5 | 277 | 85 | 50 | | | |
| 226 | 95 | 80 | 252 | 97 | 10 | 278 | 82 | 50 | | | |

SUMMARY MEASURES FOR CYCLE 2110248101

GENERATED FROM INPUT MATRIX: LA ALL DIESEL NON-FREEWAY

CYCLE DURATION = 5.10 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .7957E 00 |
| UPPER | .5548E 00 |
| DIAGONAL | .1000E 01 |
| LOWER | .2281E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 28.25 | 30.02 |
| *** DIAGONAL | 9.60 | 9.80 |
| LOWER | 28.53 | 25.53 |
| IDLE | 33.62 | 34.65 |

POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 25.92 | 21.96 |
| % ACCEL | 11.86 | 14.36 |
| % DECEL | 14.12 | 14.99 |
| ** % CRUISE | 18.08 | 12.82 |
| % MOTORING | 21.47 | 22.43 |
| % ZERO | 34.46 | 35.40 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 43.41 | 42.88 |
| % ACCEL | 25.71 | 26.26 |
| % DECEL | 24.29 | 21.81 |
| ** % CRUISE | 13.28 | 14.36 |
| % ZERO | 36.72 | 37.57 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 2110248101
ALL LA DSL NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 86 | 80 | 151 | 70 | M |
| 2 | 0 | 0 | 52 | 0 | 0 | 102 | 88 | 90 | 152 | 70 | 10 |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 92 | 80 | 153 | 74 | 20 |
| 4 | 0 | 0 | 54 | 0 | 0 | 104 | 92 | 60 | 154 | 72 | M |
| 5 | 0 | 0 | 55 | 0 | 0 | 105 | 92 | 70 | 155 | 70 | M |
| 6 | 0 | 0 | 56 | 0 | 0 | 106 | 100 | 60 | 156 | 40 | M |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 106 | 60 | 157 | 24 | M |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 106 | 80 | 158 | 16 | M |
| 9 | 0 | 0 | 59 | 0 | 0 | 109 | 110 | M | 159 | 8 | M |
| 10 | 0 | 0 | 60 | 0 | 0 | 110 | 112 | M | 160 | -6 | M |
| 11 | 0 | 0 | 61 | 0 | 0 | 111 | 82 | M | 161 | 0 | 0 |
| 12 | 0 | 0 | 62 | 0 | 0 | 112 | 82 | M | 162 | 8 | 60 |
| 13 | 0 | 0 | 63 | 0 | 0 | 113 | 72 | M | 163 | 24 | 60 |
| 14 | 0 | 0 | 64 | 0 | 0 | 114 | 70 | M | 164 | 58 | 70 |
| 15 | 0 | 0 | 65 | 0 | 0 | 115 | 68 | M | 165 | 84 | 50 |
| 16 | 0 | 0 | 66 | 0 | 0 | 116 | 82 | 70 | 166 | 88 | 30 |
| 17 | 0 | 0 | 67 | 0 | 0 | 117 | 82 | 70 | 167 | 90 | 30 |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 80 | 70 | 168 | 92 | 30 |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 92 | 60 | 169 | 98 | 10 |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 96 | 60 | 170 | 98 | 0 |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 100 | 60 | 171 | 96 | 10 |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 98 | 60 | 172 | 96 | 10 |
| 23 | 0 | 0 | 73 | 0 | 0 | 123 | 102 | 60 | 173 | 96 | M |
| 24 | 0 | 0 | 74 | 0 | 0 | 124 | 104 | 40 | 174 | 96 | M |
| 25 | 0 | 0 | 75 | 0 | 0 | 125 | 104 | 10 | 175 | 82 | 40 |
| 26 | 0 | 0 | 76 | 0 | 0 | 126 | 80 | 20 | 176 | 88 | 30 |
| 27 | 0 | 0 | 77 | 0 | 0 | 127 | 84 | 20 | 177 | 86 | 30 |
| 28 | 0 | 20 | 78 | 0 | 0 | 128 | 82 | 20 | 178 | 88 | 20 |
| 29 | 0 | 20 | 79 | 0 | 0 | 129 | 80 | 10 | 179 | 88 | 20 |
| 30 | 24 | 20 | 80 | 0 | 0 | 130 | 80 | 10 | 180 | 86 | 20 |
| 31 | 26 | 10 | 81 | 0 | 0 | 131 | 76 | M | 181 | 86 | 20 |
| 32 | 14 | 10 | 82 | 0 | 0 | 132 | 74 | M | 182 | 88 | 20 |
| 33 | 8 | M | 83 | 0 | 0 | 133 | 72 | M | 183 | 88 | 10 |
| 34 | 6 | M | 84 | 0 | 0 | 134 | 68 | M | 184 | 78 | M |
| 35 | 6 | M | 85 | 0 | 0 | 135 | 78 | M | 185 | 72 | M |
| 36 | 0 | 0 | 86 | 0 | 0 | 136 | 78 | M | 186 | 72 | M |
| 37 | 0 | 0 | 87 | 0 | 0 | 137 | 82 | 10 | 187 | 70 | 10 |
| 38 | 0 | 0 | 88 | 0 | 0 | 138 | 80 | 20 | 188 | 70 | M |
| 39 | 0 | 0 | 89 | 0 | 0 | 139 | 78 | 10 | 189 | 70 | M |
| 40 | 0 | 0 | 90 | 0 | 0 | 140 | 78 | 20 | 190 | 76 | M |
| 41 | 0 | 0 | 91 | 0 | 0 | 141 | 88 | 10 | 191 | 74 | M |
| 42 | 0 | 0 | 92 | 0 | 0 | 142 | 70 | 80 | 192 | 68 | M |
| 43 | 0 | 0 | 93 | 0 | 50 | 143 | 76 | 80 | 193 | 66 | M |
| 44 | 0 | 0 | 94 | -2 | 100 | 144 | 82 | 70 | 194 | 66 | M |
| 45 | 0 | 0 | 95 | 10 | 100 | 145 | 94 | M | 195 | 62 | M |
| 46 | 0 | 0 | 96 | 44 | 100 | 146 | 70 | M | 196 | 62 | M |
| 47 | 0 | 0 | 97 | 76 | 100 | 147 | 68 | M | 197 | 54 | M |
| 48 | 0 | 0 | 98 | 80 | 100 | 148 | 70 | M | 198 | 54 | M |
| 49 | 0 | 0 | 99 | 80 | 100 | 149 | 60 | M | 199 | 66 | M |
| 50 | 0 | 0 | 100 | 84 | 90 | 150 | 58 | M | 200 | 72 | 70 |

RPM AND POWER SCHEDULE FOR CYCLE 2110248101 (CONTINUED)
ALL LA DSL NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 86 | 70 | 240 | 98 | 50 | 279 | 0 | 0 | 318 | 94 | 100 |
| 202 | 86 | 30 | 241 | 98 | 50 | 280 | 0 | 0 | 319 | 94 | 100 |
| 203 | 86 | 20 | 242 | 100 | 50 | 281 | 0 | 0 | 320 | 96 | 100 |
| 204 | 90 | M | 243 | 106 | 50 | 282 | 0 | 0 | 321 | 96 | 100 |
| 205 | 90 | M | 244 | 110 | M | 283 | 0 | 0 | 322 | 98 | 100 |
| 206 | 106 | M | 245 | 114 | M | 284 | 0 | 0 | 323 | 110 | 100 |
| 207 | 74 | M | 246 | 72 | M | 285 | 0 | 0 | 324 | 110 | 90 |
| 208 | 74 | M | 247 | 70 | M | 286 | 0 | M | 325 | 110 | M |
| 209 | 72 | 10 | 248 | 66 | M | 287 | 0 | 0 | 326 | 86 | M |
| 210 | 70 | 10 | 249 | 60 | M | 288 | 0 | 0 | 327 | 90 | 0 |
| 211 | 80 | 40 | 250 | 48 | M | 289 | -4 | M | 328 | 90 | 0 |
| 212 | 82 | 40 | 251 | 52 | M | 290 | 6 | M | 329 | 92 | M |
| 213 | 78 | 30 | 252 | 54 | M | 291 | 2 | M | 330 | 80 | M |
| 214 | 72 | 30 | 253 | 54 | M | 292 | 0 | 0 | 331 | 66 | 0 |
| 215 | 90 | 0 | 254 | 78 | M | 293 | 0 | 0 | 332 | 64 | M |
| 216 | 90 | 0 | 255 | 78 | M | 294 | 0 | 0 | 333 | 62 | M |
| 217 | 92 | 0 | 256 | 52 | M | 295 | 0 | 0 | 334 | 58 | M |
| 218 | 92 | M | 257 | 42 | M | 296 | 0 | 20 | 335 | 56 | M |
| 219 | 94 | M | 258 | 40 | M | 297 | 0 | 20 | 336 | 52 | M |
| 220 | 94 | M | 259 | 28 | M | 298 | 0 | 20 | 337 | 50 | M |
| 221 | 94 | M | 260 | 6 | M | 299 | 0 | 0 | 338 | 44 | M |
| 222 | 96 | M | 261 | 0 | 0 | 300 | 0 | 0 | 339 | 38 | 40 |
| 223 | 64 | M | 262 | 0 | 0 | 301 | 0 | 0 | 340 | 34 | 20 |
| 224 | 62 | M | 263 | -2 | 50 | 302 | 0 | 80 | 341 | 32 | 20 |
| 225 | 62 | M | 264 | 0 | 0 | 303 | 0 | 60 | 342 | 30 | 20 |
| 226 | 44 | 70 | 265 | 0 | 0 | 304 | 8 | 60 | 343 | 28 | 20 |
| 227 | 54 | 90 | 266 | 0 | 0 | 305 | 16 | 70 | 344 | 20 | 20 |
| 228 | 64 | 90 | 267 | 0 | 0 | 306 | 16 | 70 | 345 | 8 | M |
| 229 | 64 | 90 | 268 | 0 | 0 | 307 | 36 | 70 | 346 | 0 | 0 |
| 230 | 70 | 90 | 269 | 0 | 0 | 308 | 44 | 70 | 347 | 0 | 0 |
| 231 | 76 | 100 | 270 | 0 | 0 | 309 | 56 | 70 | 348 | 0 | 0 |
| 232 | 82 | 90 | 271 | 0 | 0 | 310 | 62 | 70 | 349 | 0 | 0 |
| 233 | 82 | 80 | 272 | 0 | 0 | 311 | 70 | 50 | 350 | 0 | 0 |
| 234 | 88 | 80 | 273 | 0 | 0 | 312 | 72 | 80 | 351 | 0 | 0 |
| 235 | 94 | 80 | 274 | 0 | 0 | 313 | 74 | 80 | 352 | 0 | 0 |
| 236 | 94 | 80 | 275 | 0 | 0 | 314 | 80 | 90 | 353 | 0 | 0 |
| 237 | 102 | 80 | 276 | 0 | 0 | 315 | 90 | 90 | 354 | 0 | 0 |
| 238 | 108 | 80 | 277 | 0 | 0 | 316 | 90 | 90 | | | |
| 239 | 92 | M | 278 | 0 | 0 | 317 | 92 | 100 | | | |

RPM AND POWER SCHEDULE FOR CYCLE 2110248101
ALL LA DSL NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 82 | 70 | 151 | 85 | 28 |
| 2 | 0 | 0 | 52 | 0 | 0 | 102 | 81 | 69 | 152 | 88 | 31 |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 93 | 60 | 153 | 86 | 29 |
| 4 | 0 | 0 | 54 | 0 | 0 | 104 | 97 | 60 | 154 | 8 | 20 |
| 5 | 0 | 0 | 55 | 0 | 0 | 105 | 99 | 60 | 155 | 87 | 20 |
| 6 | 0 | 0 | 56 | 0 | 0 | 106 | 101 | 60 | 156 | 86 | 20 |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 104 | 43 | 157 | 87 | 20 |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 104 | 10 | 158 | 88 | 11 |
| 9 | 0 | 0 | 59 | 0 | 0 | 109 | 81 | 20 | 159 | 78 | M |
| 10 | 0 | 0 | 60 | 0 | 0 | 110 | 83 | 20 | 160 | 72 | M |
| 11 | 0 | 0 | 61 | 0 | 0 | 111 | 81 | 15 | 161 | 71 | M |
| 12 | 0 | 0 | 62 | 0 | 0 | 112 | 80 | 10 | 162 | 70 | M |
| 13 | 0 | 0 | 63 | 0 | 0 | 113 | 77 | M | 163 | 70 | M |
| 14 | 0 | 0 | 64 | 0 | 0 | 114 | 74 | M | 164 | 75 | M |
| 15 | 0 | 0 | 65 | 0 | 0 | 115 | 72 | M | 165 | 74 | M |
| 16 | 0 | 0 | 66 | 0 | 0 | 116 | 71 | M | 166 | 68 | M |
| 17 | 0 | 0 | 67 | 0 | 0 | 117 | 78 | M | 167 | 66 | M |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 80 | 1 | 168 | 64 | M |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 81 | 17 | 169 | 62 | M |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 78 | 11 | 170 | 56 | M |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 78 | 20 | 171 | 54 | M |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 84 | 24 | 172 | 66 | M |
| 23 | 0 | 0 | 73 | 0 | 0 | 123 | 72 | 80 | 173 | 75 | 70 |
| 24 | 0 | 16 | 74 | 0 | 0 | 124 | 79 | 75 | 174 | 86 | 54 |
| 25 | 0 | 20 | 75 | 0 | 0 | 125 | 90 | 16 | 175 | 86 | 25 |
| 26 | 24 | 19 | 76 | 0 | 0 | 126 | 74 | M | 176 | 89 | M |
| 27 | 23 | 10 | 77 | 0 | 0 | 127 | 68 | M | 177 | 90 | M |
| 28 | 12 | 2 | 78 | 0 | 0 | 128 | 69 | M | 178 | 105 | M |
| 29 | 7 | M | 79 | 0 | 0 | 129 | 59 | M | 179 | 74 | M |
| 30 | 6 | M | 80 | 0 | 30 | 130 | 64 | M | 180 | 73 | M |
| 31 | 1 | M | 81 | -1 | 88 | 131 | 70 | 2 | 181 | 71 | 10 |
| 32 | 0 | 0 | 82 | 5 | 100 | 132 | 73 | 18 | 182 | 76 | 29 |
| 33 | 0 | 0 | 83 | 46 | 100 | 133 | 72 | M | 183 | 82 | 40 |
| 34 | 0 | 0 | 84 | 77 | 100 | 134 | 67 | M | 184 | 78 | 30 |
| 35 | 0 | 0 | 85 | 80 | 100 | 135 | 36 | M | 185 | 74 | 26 |
| 36 | 0 | 0 | 86 | 82 | 95 | 136 | 21 | M | 186 | 90 | 0 |
| 37 | 0 | 0 | 87 | 85 | 83 | 137 | 11 | M | 187 | 91 | 0 |
| 38 | 0 | 0 | 88 | 88 | 89 | 138 | -1 | M | 188 | 92 | M |
| 39 | 0 | 0 | 89 | 92 | 80 | 139 | 0 | M | 189 | 94 | M |
| 40 | 0 | 0 | 90 | 92 | 62 | 140 | 9 | 60 | 190 | 94 | M |
| 41 | 0 | 0 | 91 | 95 | 67 | 141 | 31 | 62 | 191 | 94 | M |
| 42 | 0 | 0 | 92 | 103 | 60 | 142 | 67 | 63 | 192 | 89 | M |
| 43 | 0 | 0 | 93 | 106 | 73 | 143 | 86 | 40 | 193 | 63 | M |
| 44 | 0 | 0 | 94 | 105 | 8 | 144 | 89 | 30 | 194 | 62 | M |
| 45 | 0 | 0 | 95 | 112 | M | 145 | 92 | 30 | 195 | 49 | 46 |
| 46 | 0 | 0 | 96 | 82 | M | 146 | 98 | 10 | 196 | 53 | 87 |
| 47 | 0 | 0 | 97 | 79 | M | 147 | 98 | 1 | 197 | 64 | 90 |
| 48 | 0 | 0 | 98 | 71 | M | 148 | 96 | 10 | 198 | 65 | 90 |
| 49 | 0 | 0 | 99 | 69 | M | 149 | 96 | 1 | 199 | 72 | 93 |
| 50 | 0 | 0 | 100 | 78 | 49 | 150 | 96 | M | 200 | 79 | 95 |

RPM AND POWER SCHEDULE FOR CYCLE 2110248101 (CONTINUED)
ALL LA DSL NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 82 | 84 | 228 | C | 6 | 255 | 0 | 3 | 282 | 88 | M |
| 202 | 87 | 80 | 229 | 0 | 0 | 256 | 0 | 20 | 283 | 90 | 0 |
| 203 | 94 | 80 | 230 | C | 0 | 257 | 0 | 20 | 284 | 91 | M |
| 204 | 95 | 80 | 231 | 0 | 0 | 258 | 0 | 8 | 285 | 82 | M |
| 205 | 104 | 80 | 232 | C | 0 | 259 | 0 | 0 | 286 | 66 | M |
| 206 | 101 | 42 | 233 | C | 0 | 260 | 0 | 0 | 287 | 64 | M |
| 207 | 96 | 25 | 234 | C | 0 | 261 | 0 | 78 | 288 | 61 | M |
| 208 | 98 | 50 | 235 | C | 0 | 262 | 2 | 60 | 289 | 57 | M |
| 209 | 100 | 50 | 236 | C | 0 | 263 | 11 | 64 | 290 | 53 | M |
| 210 | 106 | 47 | 237 | C | 0 | 264 | 16 | 70 | 291 | 50 | M |
| 211 | 111 | M | 238 | C | 0 | 265 | 30 | 70 | 292 | 44 | M |
| 212 | 98 | M | 239 | C | 0 | 266 | 43 | 70 | 293 | 38 | 38 |
| 213 | 71 | M | 240 | 0 | 0 | 267 | 56 | 70 | 294 | 33 | 20 |
| 214 | 67 | M | 241 | C | 0 | 268 | 63 | 66 | 295 | 31 | 20 |
| 215 | 61 | M | 242 | C | 0 | 269 | 71 | 60 | 296 | 29 | 20 |
| 216 | 48 | M | 243 | C | 0 | 270 | 73 | 80 | 297 | 22 | 20 |
| 217 | 52 | M | 244 | C | 0 | 271 | 78 | 87 | 298 | 9 | M |
| 218 | 54 | M | 245 | C | 0 | 272 | 88 | 90 | 299 | 0 | 0 |
| 219 | 65 | M | 246 | C | 0 | 273 | 90 | 90 | 300 | 0 | 0 |
| 220 | 78 | M | 247 | C | M | 274 | 92 | 100 | 301 | 0 | 0 |
| 221 | 58 | M | 248 | C | 0 | 275 | 94 | 100 | 302 | 0 | 0 |
| 222 | 43 | M | 249 | 0 | M | 276 | 95 | 100 | 303 | 0 | 0 |
| 223 | 39 | M | 250 | C | M | 277 | 96 | 100 | 304 | 0 | 0 |
| 224 | 22 | M | 251 | 4 | M | 278 | 98 | 100 | 305 | 0 | 0 |
| 225 | 3 | M | 252 | 1 | M | 279 | 109 | 100 | 306 | 0 | 0 |
| 226 | 0 | 0 | 253 | C | 0 | 280 | 110 | 83 | | | |
| 227 | 0 | 37 | 254 | C | 0 | 281 | 104 | M | | | |

SUMMARY MEASURES FOR CYCLE 792043535

GENERATED FROM INPUT MATRIX: NY ALL GAS FREEWAY

CYCLE DURATION = 4.77 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .1320E 00 |
| UPPER | .5655E 00 |
| DIAGONAL | .7160E 00 |
| LOWER | .4293E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 32.93 | 32.64 |
| *** DIAGONAL | 24.17 | 26.49 |
| LOWER | 31.12 | 31.22 |
| IDLE | 11.78 | 9.65 |

POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 47.56 | 49.87 |
| % ACCEL | 18.43 | 18.90 |
| % DECEL | 24.17 | 20.16 |
| ** % CRUISE | 30.82 | 31.89 |
| % MOTORING | 13.29 | 18.28 |
| % ZERO | 13.29 | 10.77 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 50.18 | 47.73 |
| % ACCEL | 24.77 | 22.67 |
| % DECEL | 17.22 | 20.96 |
| ** % CRUISE | 45.92 | 44.72 |
| % ZERO | 12.08 | 11.65 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 792043535
ALL NY GAS FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)

PAGE 1 OF 2

| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 46 | 50 | 101 | 52 | 40 | 151 | 72 | 30 |
| 2 | 0 | 0 | 52 | 48 | 50 | 102 | 54 | 70 | 152 | 74 | 30 |
| 3 | 0 | 0 | 53 | 48 | 40 | 103 | 56 | 60 | 153 | 74 | 30 |
| 4 | 0 | 0 | 54 | 48 | 20 | 104 | 56 | 60 | 154 | 76 | 50 |
| 5 | 0 | 0 | 55 | 48 | 20 | 105 | 56 | 60 | 155 | 78 | 50 |
| 6 | 0 | 0 | 56 | 50 | 50 | 106 | 56 | 20 | 156 | 80 | 60 |
| 7 | 0 | 0 | 57 | 50 | 60 | 107 | 56 | 20 | 157 | 80 | M |
| 8 | 0 | 0 | 58 | 50 | 60 | 108 | 58 | 40 | 158 | 78 | 20 |
| 9 | 0 | 0 | 59 | 50 | 60 | 109 | 58 | 40 | 159 | 78 | 40 |
| 10 | 0 | 0 | 60 | 50 | 60 | 110 | 58 | 40 | 160 | 82 | 20 |
| 11 | 0 | 0 | 61 | 50 | 60 | 111 | 60 | 80 | 161 | 82 | 30 |
| 12 | 0 | 0 | 62 | 50 | 30 | 112 | 62 | 80 | 162 | 122 | 40 |
| 13 | 0 | 0 | 63 | 50 | 30 | 113 | 66 | 70 | 163 | 122 | 30 |
| 14 | 0 | 0 | 64 | 50 | 20 | 114 | 66 | 70 | 164 | 124 | 80 |
| 15 | 0 | 0 | 65 | 50 | 20 | 115 | 68 | 80 | 165 | 124 | 70 |
| 16 | 0 | 0 | 66 | 50 | 0 | 116 | 66 | 90 | 166 | 124 | 70 |
| 17 | 0 | 0 | 67 | 50 | M | 117 | 66 | 100 | 167 | 124 | 70 |
| 18 | 4 | 0 | 68 | 50 | 60 | 118 | 68 | 100 | 168 | 130 | 70 |
| 19 | 12 | 20 | 69 | 50 | 70 | 119 | 66 | 100 | 169 | 146 | 70 |
| 20 | 16 | 20 | 70 | 50 | 60 | 120 | 66 | 100 | 170 | 146 | 70 |
| 21 | 22 | 20 | 71 | 50 | 40 | 121 | 66 | 100 | 171 | 150 | 20 |
| 22 | 24 | 10 | 72 | 54 | 40 | 122 | 66 | 100 | 172 | 150 | 30 |
| 23 | 26 | M | 73 | 54 | 20 | 123 | 66 | 100 | 173 | 150 | 30 |
| 24 | 28 | 90 | 74 | 54 | 20 | 124 | 68 | 90 | 174 | 150 | 30 |
| 25 | 34 | 90 | 75 | 56 | 40 | 125 | 68 | 90 | 175 | 124 | M |
| 26 | 38 | 90 | 76 | 56 | 50 | 126 | 70 | 80 | 176 | 120 | M |
| 27 | 40 | 90 | 77 | 56 | 40 | 127 | 70 | 80 | 177 | 120 | M |
| 28 | 40 | 80 | 78 | 56 | 60 | 128 | 70 | 70 | 178 | 120 | 80 |
| 29 | 40 | 80 | 79 | 56 | 50 | 129 | 70 | 70 | 179 | 128 | 80 |
| 30 | 40 | 80 | 80 | 56 | 40 | 130 | 70 | 70 | 180 | 134 | 80 |
| 31 | 42 | 80 | 81 | 58 | 20 | 131 | 70 | 80 | 181 | 136 | 90 |
| 32 | 42 | 80 | 82 | 58 | 50 | 132 | 72 | 70 | 182 | 140 | 90 |
| 33 | 44 | 80 | 83 | 58 | 50 | 133 | 72 | 70 | 183 | 140 | 90 |
| 34 | 44 | 50 | 84 | 58 | 40 | 134 | 72 | 50 | 184 | 140 | 90 |
| 35 | 44 | 80 | 85 | 58 | 50 | 135 | 72 | 80 | 185 | 138 | 0 |
| 36 | 44 | 80 | 86 | 58 | 40 | 136 | 72 | 50 | 186 | 134 | M |
| 37 | 44 | 90 | 87 | 58 | 40 | 137 | 70 | M | 187 | 128 | M |
| 38 | 44 | 90 | 88 | 58 | 40 | 138 | 68 | M | 188 | 128 | M |
| 39 | 42 | 70 | 89 | 60 | 40 | 139 | 68 | M | 189 | 126 | M |
| 40 | 42 | 70 | 90 | 62 | 40 | 140 | 68 | M | 190 | 124 | 90 |
| 41 | 42 | 50 | 91 | 60 | 40 | 141 | 66 | M | 191 | 126 | 100 |
| 42 | 42 | 40 | 92 | 60 | 50 | 142 | 66 | M | 192 | 82 | 90 |
| 43 | 44 | 30 | 93 | 58 | M | 143 | 64 | 50 | 193 | 82 | 100 |
| 44 | 44 | 40 | 94 | 56 | M | 144 | 64 | 40 | 194 | 84 | 100 |
| 45 | 44 | 40 | 95 | 58 | M | 145 | 64 | 20 | 195 | 90 | 100 |
| 46 | 44 | 40 | 96 | 58 | M | 146 | 64 | 10 | 196 | 90 | 100 |
| 47 | 46 | 60 | 97 | 58 | M | 147 | 64 | 0 | 197 | 90 | 100 |
| 48 | 46 | 30 | 98 | 54 | M | 148 | 62 | M | 198 | 94 | 100 |
| 49 | 46 | 40 | 99 | 54 | M | 149 | 68 | 50 | 199 | 94 | 100 |
| 50 | 46 | 50 | 100 | 52 | 20 | 150 | 68 | 40 | 200 | 94 | M |

RPM AND POWER SCHEDULE FOR CYCLE 792043535 (CONTINUED)
ALL NY GAS FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 94 | M | 234 | 30 | 50 | 267 | 20 | 30 | 300 | 12 | M |
| 202 | 96 | M | 235 | 30 | 40 | 268 | 22 | 30 | 301 | 2 | 80 |
| 203 | 96 | M | 236 | 34 | 20 | 269 | 24 | 20 | 302 | 6 | 80 |
| 204 | 94 | M | 237 | 36 | 10 | 270 | 26 | 50 | 303 | 0 | 50 |
| 205 | 92 | M | 238 | 34 | 10 | 271 | 24 | 80 | 304 | 0 | 40 |
| 206 | 92 | M | 239 | 34 | 0 | 272 | 24 | 40 | 305 | 2 | 60 |
| 207 | 66 | 70 | 240 | 38 | M | 273 | 24 | 70 | 306 | 2 | M |
| 208 | 66 | 70 | 241 | 30 | 10 | 274 | 24 | 70 | 307 | 2 | M |
| 209 | 62 | 70 | 242 | 30 | 0 | 275 | 24 | 70 | 308 | 2 | 0 |
| 210 | 64 | 30 | 243 | 32 | 90 | 276 | 26 | 60 | 309 | 0 | 0 |
| 211 | 64 | 20 | 244 | 46 | 90 | 277 | 26 | 70 | 310 | 0 | 0 |
| 212 | 64 | M | 245 | 46 | 90 | 278 | 30 | 60 | 311 | 0 | 0 |
| 213 | 62 | M | 246 | 44 | 100 | 279 | 32 | 90 | 312 | 0 | 0 |
| 214 | 34 | M | 247 | 42 | 100 | 280 | 30 | 90 | 313 | 0 | 0 |
| 215 | 26 | M | 248 | 44 | 100 | 281 | 30 | 90 | 314 | 0 | 0 |
| 216 | 24 | M | 249 | 46 | 100 | 282 | 34 | 90 | 315 | 0 | 0 |
| 217 | 16 | M | 250 | 46 | 100 | 283 | 34 | 90 | 316 | 0 | 0 |
| 218 | 10 | M | 251 | 44 | 100 | 284 | 34 | 90 | 317 | 0 | 0 |
| 219 | 6 | M | 252 | 44 | 100 | 285 | 34 | 90 | 318 | 0 | 0 |
| 220 | 2 | 0 | 253 | 46 | 90 | 286 | 34 | 40 | 319 | 0 | 0 |
| 221 | 2 | 0 | 254 | 64 | M | 287 | 32 | 20 | 320 | 0 | 0 |
| 222 | 2 | 0 | 255 | 66 | M | 288 | 34 | 20 | 321 | 0 | 0 |
| 223 | 4 | 70 | 256 | 66 | M | 289 | 32 | M | 322 | 0 | 0 |
| 224 | 6 | 70 | 257 | 64 | M | 290 | 28 | M | 323 | 0 | 0 |
| 225 | 24 | 70 | 258 | 60 | M | 291 | 30 | M | 324 | 0 | 0 |
| 226 | 24 | 60 | 259 | 60 | 20 | 292 | 28 | M | 325 | 0 | 0 |
| 227 | 26 | 60 | 260 | 58 | M | 293 | 24 | 20 | 326 | 0 | 0 |
| 228 | 26 | 60 | 261 | 58 | M | 294 | 24 | 10 | 327 | 0 | 0 |
| 229 | 26 | 50 | 262 | 58 | M | 295 | 24 | 10 | 328 | 0 | 0 |
| 230 | 26 | 80 | 263 | 58 | M | 296 | 24 | 0 | 329 | 0 | 0 |
| 231 | 26 | 50 | 264 | 58 | M | 297 | 24 | 0 | 330 | 0 | 0 |
| 232 | 28 | 50 | 265 | 30 | M | 298 | 22 | M | 331 | 0 | 0 |
| 233 | 30 | 50 | 266 | 20 | 30 | 299 | 18 | M | | | |

RPM AND POWER SCHEDULE FOR CYCLE 792043535
ALL NY GAS FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 50 | 60 | 101 | 66 | 99 | 151 | 130 | M |
| 2 | 0 | 0 | 52 | 50 | 60 | 102 | 68 | 100 | 152 | 120 | M |
| 3 | 0 | 0 | 53 | 50 | 50 | 103 | 66 | 100 | 153 | 120 | M |
| 4 | 0 | 0 | 54 | 50 | 30 | 104 | 66 | 100 | 154 | 122 | 80 |
| 5 | 0 | 0 | 55 | 50 | 23 | 105 | 66 | 100 | 155 | 130 | 80 |
| 6 | 0 | 0 | 56 | 50 | 20 | 106 | 66 | 100 | 156 | 135 | 86 |
| 7 | 0 | 0 | 57 | 50 | 1 | 107 | 68 | 92 | 157 | 139 | 90 |
| 8 | 0 | 0 | 58 | 50 | M | 108 | 68 | 90 | 158 | 140 | 90 |
| 9 | 0 | 0 | 59 | 50 | 63 | 109 | 70 | 80 | 159 | 140 | 87 |
| 10 | 0 | 0 | 60 | 50 | 66 | 110 | 70 | 77 | 160 | 137 | M |
| 11 | 0 | 0 | 61 | 50 | 48 | 111 | 70 | 70 | 161 | 132 | M |
| 12 | 0 | 0 | 62 | 53 | 40 | 112 | 70 | 70 | 162 | 128 | M |
| 13 | 0 | 0 | 63 | 54 | 22 | 113 | 70 | 78 | 163 | 127 | M |
| 14 | 0 | 0 | 64 | 54 | 21 | 114 | 72 | 71 | 164 | 124 | 71 |
| 15 | 1 | 0 | 65 | 56 | 42 | 115 | 72 | 68 | 165 | 126 | 100 |
| 16 | 8 | 10 | 66 | 56 | 46 | 116 | 72 | 58 | 166 | 82 | 91 |
| 17 | 15 | 20 | 67 | 56 | 51 | 117 | 72 | 67 | 167 | 83 | 100 |
| 18 | 21 | 20 | 68 | 56 | 53 | 118 | 71 | 16 | 168 | 87 | 100 |
| 19 | 24 | 10 | 69 | 56 | 41 | 119 | 69 | M | 169 | 90 | 100 |
| 20 | 26 | 5 | 70 | 58 | 21 | 120 | 68 | M | 170 | 90 | 100 |
| 21 | 30 | 90 | 71 | 58 | 50 | 121 | 68 | M | 171 | 94 | 100 |
| 22 | 36 | 90 | 72 | 58 | 47 | 122 | 66 | M | 172 | 94 | 92 |
| 23 | 39 | 90 | 73 | 58 | 45 | 123 | 65 | 12 | 173 | 94 | M |
| 24 | 40 | 82 | 74 | 58 | 44 | 124 | 64 | 45 | 174 | 95 | M |
| 25 | 40 | 80 | 75 | 58 | 40 | 125 | 64 | 26 | 175 | 96 | M |
| 26 | 40 | 80 | 76 | 58 | 40 | 126 | 64 | 12 | 176 | 95 | M |
| 27 | 42 | 80 | 77 | 60 | 40 | 127 | 64 | 0 | 177 | 92 | M |
| 28 | 43 | 80 | 78 | 61 | 40 | 128 | 63 | M | 178 | 92 | M |
| 29 | 44 | 63 | 79 | 60 | 44 | 129 | 68 | 47 | 179 | 66 | 70 |
| 30 | 44 | 72 | 80 | 59 | 14 | 130 | 70 | 35 | 180 | 65 | 70 |
| 31 | 44 | 80 | 81 | 56 | M | 131 | 73 | 30 | 181 | 63 | 50 |
| 32 | 44 | 90 | 82 | 58 | M | 132 | 74 | 30 | 182 | 64 | 24 |
| 33 | 44 | 86 | 83 | 58 | M | 133 | 76 | 49 | 183 | 64 | M |
| 34 | 42 | 70 | 84 | 57 | M | 134 | 78 | 51 | 184 | 62 | M |
| 35 | 42 | 60 | 85 | 54 | M | 135 | 80 | 42 | 185 | 33 | M |
| 36 | 42 | 43 | 86 | 53 | 6 | 136 | 79 | 2 | 186 | 25 | M |
| 37 | 44 | 32 | 87 | 52 | 34 | 137 | 78 | 31 | 187 | 21 | M |
| 38 | 44 | 40 | 88 | 54 | 66 | 138 | 81 | 26 | 188 | 12 | M |
| 39 | 44 | 40 | 89 | 56 | 60 | 139 | 82 | 29 | 189 | 7 | M |
| 40 | 45 | 46 | 90 | 56 | 60 | 140 | 122 | 40 | 190 | 2 | M |
| 41 | 46 | 46 | 91 | 56 | 47 | 141 | 122 | 40 | 191 | 2 | 0 |
| 42 | 46 | 36 | 92 | 56 | 20 | 142 | 124 | 76 | 192 | 2 | 16 |
| 43 | 46 | 48 | 93 | 57 | 33 | 143 | 124 | 70 | 193 | 5 | 70 |
| 44 | 46 | 50 | 94 | 58 | 40 | 144 | 124 | 70 | 194 | 16 | 70 |
| 45 | 48 | 49 | 95 | 58 | 40 | 145 | 129 | 70 | 195 | 24 | 63 |
| 46 | 48 | 35 | 96 | 60 | 80 | 146 | 146 | 70 | 196 | 26 | 60 |
| 47 | 48 | 20 | 97 | 63 | 77 | 147 | 147 | 63 | 197 | 26 | 60 |
| 48 | 49 | 37 | 98 | 66 | 70 | 148 | 150 | 23 | 198 | 26 | 55 |
| 49 | 50 | 57 | 99 | 67 | 76 | 149 | 150 | 30 | 199 | 26 | 70 |
| 50 | 50 | 60 | 100 | 67 | 87 | 150 | 150 | 30 | 200 | 27 | 50 |

RPM AND POWER SCHEDULE FOR CYCLE 792043535 (CONTINUED)
ALL NY GAS FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 29 | 50 | 223 | 60 | M | 245 | 34 | 90 | 267 | 0 | 0 |
| 202 | 30 | 50 | 224 | 59 | 12 | 246 | 34 | 90 | 268 | 0 | 0 |
| 203 | 30 | 40 | 225 | 58 | M | 247 | 34 | 46 | 269 | 0 | 0 |
| 204 | 34 | 19 | 226 | 58 | M | 248 | 32 | 20 | 270 | 0 | 0 |
| 205 | 35 | 10 | 227 | 58 | M | 249 | 34 | 14 | 271 | 0 | 0 |
| 206 | 34 | 6 | 228 | 58 | M | 250 | 31 | M | 272 | 0 | 0 |
| 207 | 36 | M | 229 | 30 | M | 251 | 29 | M | 273 | 0 | 0 |
| 208 | 32 | 5 | 230 | 20 | 30 | 252 | 29 | M | 274 | 0 | 0 |
| 209 | 30 | 1 | 231 | 21 | 30 | 253 | 25 | 15 | 275 | 0 | 0 |
| 210 | 33 | 90 | 232 | 23 | 25 | 254 | 24 | 10 | 276 | 0 | 0 |
| 211 | 46 | 90 | 233 | 25 | 40 | 255 | 24 | 9 | 277 | 0 | 0 |
| 212 | 45 | 94 | 234 | 24 | 75 | 256 | 24 | 0 | 278 | 0 | 0 |
| 213 | 43 | 100 | 235 | 24 | 40 | 257 | 23 | M | 279 | 0 | 0 |
| 214 | 43 | 100 | 236 | 24 | 70 | 258 | 20 | M | 280 | 0 | 0 |
| 215 | 46 | 100 | 237 | 24 | 70 | 259 | 13 | M | 281 | 0 | 0 |
| 216 | 46 | 100 | 238 | 25 | 65 | 260 | 3 | 73 | 282 | 0 | 0 |
| 217 | 44 | 100 | 239 | 26 | 66 | 261 | 5 | 77 | 283 | 0 | 0 |
| 218 | 45 | 97 | 240 | 29 | 62 | 262 | 0 | 48 | 284 | 0 | 0 |
| 219 | 55 | 43 | 241 | 32 | 88 | 263 | 1 | 48 | 285 | 0 | 0 |
| 220 | 65 | M | 242 | 30 | 90 | 264 | 2 | 21 | 286 | 0 | 0 |
| 221 | 66 | M | 243 | 31 | 90 | 265 | 2 | M | | | |
| 222 | 64 | M | 244 | 34 | 90 | 266 | 2 | M | | | |

SUMMARY MEASURES FOR CYCLE 8410263

GENERATED FROM INPUT MATRIX: NY ALL GAS NON-FREEWAY

CYCLE DURATION = 4.54 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .4097E 00 |
| UPPER | .34 8E 00 |
| DIAGONAL | .7168E 00 |
| LOWER | .6453E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 24.13 | 23.42 |
| *** DIAGONAL | 12.38 | 14.17 |
| LOWER | 22.22 | 22.66 |
| IDLE | 41.27 | 39.76 |

POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 20.41 | 19.17 |
| % ACCEL | 13.65 | 13.57 |
| % DECEL | 15.87 | 14.47 |
| ** % CRUISE | 11.75 | 13.70 |
| % MOTORING | 16.51 | 16.41 |
| % ZERO | 42.22 | 41.86 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 12.37 | 13.41 |
| % ACCEL | 19.37 | 18.02 |
| % DECEL | 16.51 | 17.20 |
| ** % CRUISE | 10.16 | 17.42 |
| % ZERO | 53.97 | 47.36 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 8410263
ALL NY GAS NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 0 | 0 | 151 | 36 | M |
| 2 | 0 | 0 | 52 | 0 | 0 | 102 | 0 | 0 | 152 | 36 | M |
| 3 | -8 | 20 | 53 | 0 | 0 | 103 | 0 | 0 | 153 | 34 | M |
| 4 | 0 | 10 | 54 | 0 | 0 | 104 | 0 | 0 | 154 | 34 | M |
| 5 | 0 | 10 | 55 | 0 | 0 | 105 | 0 | 0 | 155 | 36 | M |
| 6 | 0 | 10 | 56 | 0 | 0 | 106 | 0 | 0 | 156 | 32 | 10 |
| 7 | 0 | 10 | 57 | 0 | 0 | 107 | 0 | 0 | 157 | 36 | 80 |
| 8 | 0 | 80 | 58 | 0 | 0 | 108 | 0 | 0 | 158 | 36 | 80 |
| 9 | 0 | 40 | 59 | 0 | 0 | 109 | 0 | 0 | 159 | 46 | 70 |
| 10 | 0 | 10 | 60 | 0 | 0 | 110 | 0 | 0 | 160 | 66 | 10 |
| 11 | 4 | 70 | 61 | 0 | 0 | 111 | -2 | 40 | 161 | 46 | M |
| 12 | 24 | 0 | 62 | 0 | 0 | 112 | 0 | 80 | 162 | 44 | M |
| 13 | 26 | M | 63 | 0 | 0 | 113 | 0 | 100 | 163 | 40 | M |
| 14 | 24 | M | 64 | 0 | 0 | 114 | 10 | 100 | 164 | 42 | M |
| 15 | 24 | M | 65 | 0 | 0 | 115 | 40 | 100 | 165 | 32 | 30 |
| 16 | 12 | 80 | 66 | 0 | 0 | 116 | 44 | 100 | 166 | 38 | 30 |
| 17 | 14 | 80 | 67 | 0 | 0 | 117 | 46 | 100 | 167 | 42 | 10 |
| 18 | 0 | 90 | 68 | 0 | 0 | 118 | 48 | 100 | 168 | 44 | 30 |
| 19 | 14 | 80 | 69 | 0 | 0 | 119 | 50 | 90 | 169 | 46 | M |
| 20 | 18 | 80 | 70 | 0 | 0 | 120 | 52 | 90 | 170 | 46 | M |
| 21 | 26 | 60 | 71 | 0 | 0 | 121 | 54 | 50 | 171 | 54 | M |
| 22 | 0 | 80 | 72 | 0 | 0 | 122 | 54 | 50 | 172 | 38 | M |
| 23 | 0 | 10 | 73 | 0 | 0 | 123 | 40 | M | 173 | 36 | M |
| 24 | 0 | 0 | 74 | 0 | 0 | 124 | 46 | 0 | 174 | 36 | M |
| 25 | 0 | 0 | 75 | 0 | 0 | 125 | 46 | 10 | 175 | 34 | M |
| 26 | 0 | 0 | 76 | 0 | 0 | 126 | 38 | M | 176 | 32 | M |
| 27 | 0 | 0 | 77 | 0 | 0 | 127 | 36 | M | 177 | 32 | M |
| 28 | 0 | 0 | 78 | 0 | 0 | 128 | 22 | 40 | 178 | 28 | M |
| 29 | 0 | 0 | 79 | 0 | 0 | 129 | 24 | 30 | 179 | 30 | 90 |
| 30 | 0 | 0 | 80 | 0 | 0 | 130 | 24 | M | 180 | 36 | 90 |
| 31 | 0 | 0 | 81 | 0 | 0 | 131 | 20 | M | 181 | 36 | 90 |
| 32 | 0 | 0 | 82 | 0 | 0 | 132 | 12 | M | 182 | 44 | 90 |
| 33 | 0 | 0 | 83 | 0 | 0 | 133 | 6 | M | 183 | 46 | 90 |
| 34 | 0 | 0 | 84 | 0 | 0 | 134 | 6 | M | 184 | 50 | 80 |
| 35 | 0 | 0 | 85 | 0 | 0 | 135 | 8 | M | 185 | 48 | 80 |
| 36 | 0 | 20 | 86 | 0 | 0 | 136 | 6 | M | 186 | 54 | 80 |
| 37 | 0 | 20 | 87 | 0 | 0 | 137 | 0 | 0 | 187 | 44 | 30 |
| 38 | 0 | 10 | 88 | 0 | 0 | 138 | 0 | 0 | 188 | 48 | 40 |
| 39 | 0 | 10 | 89 | 0 | 0 | 139 | 0 | 0 | 189 | 40 | M |
| 40 | 0 | 10 | 90 | 0 | 0 | 140 | 0 | 0 | 190 | 34 | 0 |
| 41 | 0 | 10 | 91 | 0 | 0 | 141 | 0 | 0 | 191 | 32 | 70 |
| 42 | 0 | 0 | 92 | 0 | 0 | 142 | 0 | 50 | 192 | 34 | 60 |
| 43 | 0 | 0 | 93 | 0 | 0 | 143 | 12 | 40 | 193 | 46 | 80 |
| 44 | 0 | 0 | 94 | 0 | 0 | 144 | 6 | 50 | 194 | 48 | 40 |
| 45 | 0 | 0 | 95 | 0 | 0 | 145 | 0 | 50 | 195 | 52 | 60 |
| 46 | 0 | 0 | 96 | 0 | 0 | 146 | 4 | 40 | 196 | 52 | 60 |
| 47 | 0 | 0 | 97 | 0 | 0 | 147 | 4 | 90 | 197 | 60 | 60 |
| 48 | 0 | 0 | 98 | 0 | 0 | 148 | 12 | 60 | 198 | 64 | 20 |
| 49 | 0 | 0 | 99 | 0 | 0 | 149 | 24 | 30 | 199 | 64 | 20 |
| 50 | 0 | 0 | 100 | 0 | 0 | 150 | 32 | 20 | 200 | 66 | M |

RPM AND POWER SCHEDULE FOR CYCLE 8410263 (CONTINUED)
ALL NY GAS NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 38 | 50 | 230 | C | M | 259 | 0 | 0 | 288 | 10 | M |
| 202 | 38 | 30 | 231 | C | M | 260 | 0 | 0 | 289 | 10 | M |
| 203 | 40 | 30 | 232 | 0 | 10 | 261 | 2 | M | 290 | 8 | M |
| 204 | 40 | 30 | 233 | C | 10 | 262 | 2 | M | 291 | 0 | 0 |
| 205 | 34 | 50 | 234 | C | 10 | 263 | 0 | M | 292 | 0 | 0 |
| 206 | 32 | 10 | 235 | C | 30 | 264 | 0 | M | 293 | 0 | 0 |
| 207 | 34 | 30 | 236 | 0 | 30 | 265 | 0 | M | 294 | 0 | 0 |
| 208 | 34 | 50 | 237 | C | 10 | 266 | 0 | M | 295 | 0 | 0 |
| 209 | 34 | 50 | 238 | C | 0 | 267 | 0 | M | 296 | 0 | 0 |
| 210 | 32 | M | 239 | C | 0 | 268 | 0 | 0 | 297 | 0 | 0 |
| 211 | 22 | M | 240 | C | 0 | 269 | 0 | 0 | 298 | 0 | 0 |
| 212 | 14 | M | 241 | C | 0 | 270 | C | 0 | 299 | 0 | 0 |
| 213 | 14 | M | 242 | C | 0 | 271 | 0 | 0 | 300 | 0 | 0 |
| 214 | 14 | 30 | 243 | C | 0 | 272 | 0 | 0 | 301 | 0 | 0 |
| 215 | 18 | 10 | 244 | C | 0 | 273 | 0 | 0 | 302 | 0 | 0 |
| 216 | 18 | M | 245 | C | 0 | 274 | 0 | 0 | 303 | 0 | 0 |
| 217 | 16 | M | 246 | C | 0 | 275 | 0 | M | 304 | 0 | 0 |
| 218 | 16 | M | 247 | 0 | 0 | 276 | 0 | 60 | 305 | 0 | 0 |
| 219 | 8 | M | 248 | C | 0 | 277 | 2 | 80 | 306 | 0 | M |
| 220 | 10 | M | 249 | C | 0 | 278 | 8 | 80 | 307 | 0 | 0 |
| 221 | 6 | M | 250 | 0 | 0 | 279 | 18 | 90 | 308 | 0 | 0 |
| 222 | 4 | M | 251 | 2 | 0 | 280 | 22 | 90 | 309 | 0 | 0 |
| 223 | 4 | M | 252 | 2 | 0 | 281 | 24 | 90 | 310 | 0 | 0 |
| 224 | 4 | M | 253 | C | 0 | 282 | 24 | 60 | 311 | 0 | 0 |
| 225 | 2 | M | 254 | 0 | 0 | 283 | 24 | M | 312 | 0 | 0 |
| 226 | 0 | 0 | 255 | 0 | 10 | 284 | 24 | M | 313 | 0 | 0 |
| 227 | 0 | M | 256 | 0 | 0 | 285 | 22 | M | 314 | 0 | 0 |
| 228 | 0 | 0 | 257 | 0 | 0 | 286 | 22 | M | 315 | 0 | 0 |
| 229 | 0 | M | 258 | C | 0 | 287 | 14 | M | | | |

RPM AND POWER SCHEDULE FOR CYCLE 8410263
ALL NY GAS NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 46 | 100 | 151 | 34 | M |
| 2 | -2 | 6 | 52 | 0 | 0 | 102 | 48 | 99 | 152 | 32 | M |
| 3 | -3 | 15 | 53 | 0 | 0 | 103 | 50 | 90 | 153 | 32 | M |
| 4 | 0 | 10 | 54 | 0 | 0 | 104 | 53 | 75 | 154 | 28 | 14 |
| 5 | 0 | 10 | 55 | 0 | 0 | 105 | 54 | 50 | 155 | 32 | 90 |
| 6 | 0 | 10 | 56 | 0 | 0 | 106 | 44 | 9 | 156 | 36 | 90 |
| 7 | 0 | 76 | 57 | 0 | 0 | 107 | 45 | M | 157 | 42 | 90 |
| 8 | 0 | 32 | 58 | 0 | 0 | 108 | 46 | 10 | 158 | 46 | 90 |
| 9 | 2 | 35 | 59 | 0 | 0 | 109 | 38 | M | 159 | 50 | 80 |
| 10 | 15 | 30 | 60 | 0 | 0 | 110 | 32 | 6 | 160 | 49 | 80 |
| 11 | 25 | M | 61 | 0 | 0 | 111 | 23 | 35 | 161 | 51 | 63 |
| 12 | 24 | M | 62 | 0 | 0 | 112 | 24 | 5 | 162 | 46 | 35 |
| 13 | 23 | M | 63 | 0 | 0 | 113 | 21 | M | 163 | 43 | 7 |
| 14 | 12 | 80 | 64 | 0 | 0 | 114 | 12 | M | 164 | 35 | M |
| 15 | 9 | 84 | 65 | 0 | 0 | 115 | 6 | M | 165 | 32 | 68 |
| 16 | 7 | 85 | 66 | 0 | 0 | 116 | 7 | M | 166 | 36 | 63 |
| 17 | 17 | 80 | 67 | 0 | 0 | 117 | 7 | M | 167 | 47 | 69 |
| 18 | 25 | 63 | 68 | 0 | 0 | 118 | 3 | M | 168 | 50 | 49 |
| 19 | 0 | 80 | 69 | 0 | 0 | 119 | 0 | 0 | 169 | 52 | 60 |
| 20 | 0 | 9 | 70 | 0 | 0 | 120 | 0 | 0 | 170 | 58 | 60 |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 0 | 0 | 171 | 64 | 23 |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 0 | 10 | 172 | 64 | 18 |
| 23 | 0 | 0 | 73 | 0 | 0 | 123 | 4 | 46 | 173 | 60 | 4 |
| 24 | 0 | 0 | 74 | 0 | 0 | 124 | 9 | 45 | 174 | 38 | 42 |
| 25 | 0 | 0 | 75 | 0 | 0 | 125 | 2 | 50 | 175 | 39 | 30 |
| 26 | 0 | 0 | 76 | 0 | 0 | 126 | 3 | 42 | 176 | 40 | 30 |
| 27 | 0 | 0 | 77 | 0 | 0 | 127 | 4 | 90 | 177 | 35 | 47 |
| 28 | 0 | 0 | 78 | 0 | 0 | 128 | 14 | 56 | 178 | 32 | 10 |
| 29 | 0 | 0 | 79 | 0 | 0 | 129 | 26 | 27 | 179 | 34 | 34 |
| 30 | 0 | 0 | 80 | 0 | 0 | 130 | 34 | 6 | 180 | 34 | 50 |
| 31 | 0 | 18 | 81 | 0 | 0 | 131 | 36 | M | 181 | 33 | 21 |
| 32 | 0 | 20 | 82 | 0 | 0 | 132 | 34 | M | 182 | 26 | M |
| 33 | 0 | 10 | 83 | 0 | 0 | 133 | 34 | M | 183 | 16 | M |
| 34 | 0 | 10 | 84 | 0 | 0 | 134 | 36 | M | 184 | 14 | M |
| 35 | 0 | 10 | 85 | 0 | 0 | 135 | 33 | 28 | 185 | 14 | 28 |
| 36 | 0 | 3 | 86 | 0 | 0 | 136 | 36 | 80 | 186 | 18 | 4 |
| 37 | 0 | 0 | 87 | 0 | 0 | 137 | 42 | 74 | 187 | 17 | M |
| 38 | 0 | 0 | 88 | 0 | 0 | 138 | 60 | 27 | 188 | 16 | M |
| 39 | 0 | 0 | 89 | 0 | 0 | 139 | 48 | M | 189 | 10 | M |
| 40 | 0 | 0 | 90 | 0 | 0 | 140 | 44 | M | 190 | 10 | M |
| 41 | 0 | 0 | 91 | 0 | 0 | 141 | 40 | M | 191 | 6 | M |
| 42 | 0 | 0 | 92 | 0 | 0 | 142 | 38 | 4 | 192 | 4 | M |
| 43 | 0 | 0 | 93 | 0 | 0 | 143 | 35 | 30 | 193 | 4 | M |
| 44 | 0 | 0 | 94 | 0 | 0 | 144 | 41 | 17 | 194 | 3 | M |
| 45 | 0 | 0 | 95 | 0 | 0 | 145 | 44 | 26 | 195 | 1 | M |
| 46 | 0 | 0 | 96 | -1 | 44 | 146 | 46 | M | 196 | 0 | M |
| 47 | 0 | 0 | 97 | 0 | 85 | 147 | 47 | M | 197 | 0 | M |
| 48 | 0 | 0 | 98 | 4 | 100 | 148 | 49 | M | 198 | 0 | M |
| 49 | 0 | 0 | 99 | 28 | 100 | 149 | 37 | M | 199 | 0 | M |
| 50 | 0 | 0 | 100 | 43 | 100 | 150 | 36 | M | 200 | 0 | M |

RPM AND POWER SCHEDULE FOR CYCLE 8410263 (CONTINUED)
ALL NY GAS NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 0 | 10 | 220 | 0 | 6 | 239 | 1 | 72 | 258 | 0 | 0 |
| 202 | 0 | 10 | 221 | 0 | 2 | 240 | 7 | 80 | 259 | 0 | 0 |
| 203 | 0 | 29 | 222 | 0 | 0 | 241 | 17 | 89 | 260 | 0 | 0 |
| 204 | 0 | 28 | 223 | 0 | 0 | 242 | 22 | 90 | 261 | 0 | 0 |
| 205 | 0 | 7 | 224 | 0 | 0 | 243 | 24 | 82 | 262 | 0 | 0 |
| 206 | 0 | 0 | 225 | 1 | M | 244 | 24 | 31 | 263 | 0 | 0 |
| 207 | 0 | 0 | 226 | 2 | M | 245 | 24 | M | 264 | 0 | M |
| 208 | 0 | 0 | 227 | 1 | M | 246 | 23 | M | 265 | 0 | M |
| 209 | 0 | 0 | 228 | 0 | M | 247 | 22 | M | 266 | 0 | 0 |
| 210 | 0 | 0 | 229 | 0 | M | 248 | 14 | M | 267 | 0 | 0 |
| 211 | 0 | 0 | 230 | 0 | M | 249 | 10 | M | 268 | 0 | 0 |
| 212 | 0 | 0 | 231 | 0 | M | 250 | 9 | M | 269 | 0 | 0 |
| 213 | 0 | 0 | 232 | 0 | 0 | 251 | 4 | M | 270 | 0 | 0 |
| 214 | 0 | 0 | 233 | 0 | 0 | 252 | 0 | 0 | 271 | 0 | 0 |
| 215 | 0 | 0 | 234 | 0 | 0 | 253 | 0 | 0 | 272 | 0 | 0 |
| 216 | 0 | 0 | 235 | 0 | 0 | 254 | 0 | 0 | | | |
| 217 | 2 | 0 | 236 | 0 | 0 | 255 | 0 | 0 | | | |
| 218 | 1 | 0 | 237 | 0 | M | 256 | 0 | 0 | | | |
| 219 | 0 | 0 | 238 | 0 | 22 | 257 | 0 | 0 | | | |

SUMMARY MEASURES FOR CYCLE 104099549

GENERATED FROM INPUT MATRIX: NY ALL DIESEL FREEWAY

CYCLE DURATION = 4.94 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .3185E 00 |
| UPPER | .3475E 00 |
| DIAGONAL | .8843E-01 |
| LOWER | .2231E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 31.78 | 32.31 |
| *** DIAGONAL | 12.24 | 16.54 |
| LOWER | 30.90 | 32.12 |
| IDLE | 25.07 | 19.03 |

POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 40.86 | 41.87 |
| % ACCEL | 18.08 | 17.10 |
| % DECEL | 16.33 | 17.25 |
| ** % CRUISE | 25.66 | 25.67 |
| % MOTORING | 14.29 | 19.54 |
| % ZERO | 25.66 | 20.42 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 51.94 | 53.43 |
| % ACCEL | 25.95 | 25.45 |
| % DECEL | 23.32 | 25.34 |
| ** % CRUISE | 22.74 | 25.36 |
| % ZERO | 27.99 | 23.85 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 104099549
ALL NY DSL FREEWAY C.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 82 | 100 | 151 | 98 | M |
| 2 | 0 | M | 52 | 0 | 0 | 102 | 84 | 90 | 152 | 102 | M |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 84 | 90 | 153 | 90 | M |
| 4 | 0 | 0 | 54 | 0 | 10 | 104 | 84 | 90 | 154 | 88 | 20 |
| 5 | 0 | 0 | 55 | 0 | 0 | 105 | 86 | 90 | 155 | 90 | 10 |
| 6 | 0 | 0 | 56 | 0 | 0 | 106 | 86 | 90 | 156 | 90 | M |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 88 | 90 | 157 | 92 | M |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 88 | 100 | 158 | 86 | 0 |
| 9 | 0 | 0 | 59 | 0 | 0 | 109 | 88 | 100 | 159 | 80 | 0 |
| 10 | 0 | 0 | 60 | 0 | 0 | 110 | 88 | 90 | 160 | 82 | 0 |
| 11 | 0 | 0 | 61 | 0 | 0 | 111 | 88 | 90 | 161 | 80 | 10 |
| 12 | 0 | 0 | 62 | 0 | 0 | 112 | 90 | 90 | 162 | 80 | 20 |
| 13 | 0 | 0 | 63 | 0 | 0 | 113 | 92 | 90 | 163 | 84 | 40 |
| 14 | 0 | 0 | 64 | 0 | 0 | 114 | 94 | 100 | 164 | 84 | 40 |
| 15 | 0 | 0 | 65 | 0 | 0 | 115 | 94 | 90 | 165 | 86 | 70 |
| 16 | 0 | 0 | 66 | 0 | 0 | 116 | 94 | 90 | 166 | 82 | 80 |
| 17 | 0 | 0 | 67 | 0 | 0 | 117 | 92 | 100 | 167 | 84 | 20 |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 90 | 100 | 168 | 84 | 20 |
| 19 | 0 | M | 69 | 0 | 0 | 119 | 90 | 90 | 169 | 78 | 40 |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 90 | 80 | 170 | 78 | 40 |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 90 | 80 | 171 | 76 | 20 |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 90 | 80 | 172 | 80 | 40 |
| 23 | 0 | 0 | 73 | 0 | 0 | 123 | 92 | 90 | 173 | 78 | 50 |
| 24 | 0 | 0 | 74 | 0 | 0 | 124 | 90 | 90 | 174 | 74 | 10 |
| 25 | 24 | M | 75 | 4 | M | 125 | 90 | 100 | 175 | 72 | 20 |
| 26 | 22 | M | 76 | 2 | M | 126 | 94 | 100 | 176 | 78 | M |
| 27 | 16 | M | 77 | 0 | 10 | 127 | 96 | 90 | 177 | 74 | M |
| 28 | 4 | M | 78 | 0 | 0 | 128 | 96 | 100 | 178 | 52 | 60 |
| 29 | 10 | M | 79 | 0 | 0 | 129 | 100 | 100 | 179 | 48 | 70 |
| 30 | 0 | 0 | 80 | 0 | 0 | 130 | 100 | 100 | 180 | 56 | 70 |
| 31 | 0 | 10 | 81 | 0 | 0 | 131 | 100 | 100 | 181 | 56 | 50 |
| 32 | 0 | 0 | 82 | 0 | 0 | 132 | 102 | 100 | 182 | 56 | 50 |
| 33 | 0 | 0 | 83 | 0 | 0 | 133 | 102 | 100 | 183 | 56 | 30 |
| 34 | 0 | 0 | 84 | 0 | 0 | 134 | 100 | 100 | 184 | 54 | 40 |
| 35 | 0 | 0 | 85 | 0 | 0 | 135 | 100 | 90 | 185 | 54 | 30 |
| 36 | 0 | 0 | 86 | 0 | 0 | 136 | 100 | 90 | 186 | 52 | 70 |
| 37 | 0 | 0 | 87 | 0 | 0 | 137 | 98 | 100 | 187 | 52 | 70 |
| 38 | 0 | 0 | 88 | 0 | 0 | 138 | 98 | 90 | 188 | 52 | 70 |
| 39 | 0 | 0 | 89 | 34 | 60 | 139 | 98 | 100 | 189 | 54 | 20 |
| 40 | 0 | 0 | 90 | 34 | 80 | 140 | 98 | 100 | 190 | 54 | 20 |
| 41 | 0 | 0 | 91 | 40 | 70 | 141 | 98 | 100 | 191 | 56 | 20 |
| 42 | 0 | 0 | 92 | 40 | 50 | 142 | 98 | 100 | 192 | 56 | 20 |
| 43 | 0 | 0 | 93 | 40 | 80 | 143 | 98 | 100 | 193 | 54 | 50 |
| 44 | 0 | 0 | 94 | 50 | 90 | 144 | 100 | 100 | 194 | 64 | 30 |
| 45 | 0 | 0 | 95 | 48 | 90 | 145 | 102 | 100 | 195 | 62 | 40 |
| 46 | 0 | 0 | 96 | 52 | 90 | 146 | 110 | 40 | 196 | 62 | 30 |
| 47 | 0 | 0 | 97 | 54 | 90 | 147 | 106 | 40 | 197 | 60 | 30 |
| 48 | 0 | 0 | 98 | 54 | 90 | 148 | 106 | 40 | 198 | 60 | 30 |
| 49 | 0 | 0 | 99 | 50 | 90 | 149 | 112 | 80 | 199 | 58 | 70 |
| 50 | 0 | 0 | 100 | 82 | 90 | 150 | 116 | 70 | 200 | 60 | 70 |

RPM AND POWER SCHEDULE FOR CYCLE 104099549 (CONTINUED)
ALL NY DSL FREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 66 | 80 | 237 | 70 | M | 273 | 100 | M | 309 | 64 | 10 |
| 202 | 30 | 90 | 238 | 70 | 30 | 274 | 98 | M | 310 | 56 | 10 |
| 203 | 58 | 90 | 239 | 76 | 20 | 275 | 76 | M | 311 | 48 | 0 |
| 204 | 60 | 90 | 240 | 76 | 10 | 276 | 74 | M | 312 | 50 | M |
| 205 | 56 | 90 | 241 | 86 | 20 | 277 | 72 | M | 313 | 42 | M |
| 206 | 54 | 90 | 242 | 88 | 20 | 278 | 70 | 30 | 314 | 26 | M |
| 207 | 48 | 100 | 243 | 90 | 20 | 279 | 70 | 40 | 315 | 10 | M |
| 208 | 50 | 100 | 244 | 90 | 30 | 280 | 70 | 40 | 316 | 22 | M |
| 209 | 56 | 90 | 245 | 90 | 20 | 281 | 68 | 70 | 317 | 26 | M |
| 210 | 58 | 90 | 246 | 90 | 40 | 282 | 68 | 70 | 318 | 26 | 10 |
| 211 | 58 | 90 | 247 | 90 | 40 | 283 | 74 | 80 | 319 | 26 | M |
| 212 | 58 | 90 | 248 | 94 | 80 | 284 | 74 | 80 | 320 | 22 | M |
| 213 | 60 | 80 | 249 | 96 | 80 | 285 | 80 | 80 | 321 | 18 | M |
| 214 | 62 | 40 | 250 | 96 | 80 | 286 | 76 | 80 | 322 | 20 | M |
| 215 | 62 | 30 | 251 | 94 | 80 | 287 | 80 | 80 | 323 | 24 | M |
| 216 | 62 | 70 | 252 | 96 | 80 | 288 | 82 | 80 | 324 | 26 | M |
| 217 | 62 | 70 | 253 | 96 | 20 | 289 | 82 | 80 | 325 | 6 | M |
| 218 | 62 | 40 | 254 | 92 | 30 | 290 | 82 | 80 | 326 | 0 | M |
| 219 | 66 | 70 | 255 | 94 | 60 | 291 | 80 | M | 327 | 0 | 0 |
| 220 | 68 | 60 | 256 | 90 | 70 | 292 | 82 | M | 328 | 0 | 0 |
| 221 | 70 | 50 | 257 | 94 | 70 | 293 | 86 | M | 329 | 0 | 0 |
| 222 | 66 | 70 | 258 | 98 | 70 | 294 | 82 | M | 330 | 0 | 0 |
| 223 | 68 | 70 | 259 | 104 | 80 | 295 | 84 | M | 331 | 0 | 0 |
| 224 | 66 | 70 | 260 | 104 | 20 | 296 | 80 | M | 332 | 0 | 0 |
| 225 | 78 | M | 261 | 106 | 20 | 297 | 82 | M | 333 | 0 | 0 |
| 226 | 78 | M | 262 | 106 | 10 | 298 | 82 | M | 334 | 0 | 0 |
| 227 | 74 | M | 263 | 104 | 10 | 299 | 78 | M | 335 | 0 | 0 |
| 228 | 72 | M | 264 | 98 | M | 300 | 78 | 0 | 336 | 0 | 0 |
| 229 | 68 | M | 265 | 100 | M | 301 | 82 | M | 337 | 0 | 0 |
| 230 | 70 | 90 | 266 | 96 | M | 302 | 80 | M | 338 | 0 | 0 |
| 231 | 70 | 90 | 267 | 70 | M | 303 | 82 | 30 | 339 | 0 | 0 |
| 232 | 72 | 90 | 268 | 62 | M | 304 | 84 | 20 | 340 | 0 | 0 |
| 233 | 74 | 60 | 269 | 62 | M | 305 | 82 | 20 | 341 | 0 | 0 |
| 234 | 76 | 60 | 270 | 62 | M | 306 | 82 | 10 | 342 | 0 | 0 |
| 235 | 82 | M | 271 | 58 | M | 307 | 68 | 10 | 343 | 0 | 0 |
| 236 | 78 | M | 272 | 102 | M | 308 | 76 | 10 | | | |

RPM AND POWER SCHEDULE FOR CYCLE 104099549
ALL NY DSL FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | M | 51 | 0 | 0 | 101 | 92 | 99 | 151 | 72 | 18 |
| 2 | 0 | M | 52 | 0 | 0 | 102 | 90 | 99 | 152 | 78 | M |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 90 | 88 | 153 | 72 | M |
| 4 | 0 | 0 | 54 | 0 | 0 | 104 | 90 | 80 | 154 | 51 | 62 |
| 5 | 0 | 0 | 55 | 0 | 0 | 105 | 90 | 80 | 155 | 51 | 70 |
| 6 | 0 | 0 | 56 | 0 | 0 | 106 | 91 | 87 | 156 | 56 | 59 |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 90 | 90 | 157 | 56 | 50 |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 90 | 100 | 158 | 56 | 33 |
| 9 | 0 | 0 | 59 | 0 | 0 | 109 | 94 | 98 | 159 | 54 | 40 |
| 10 | 0 | 0 | 60 | 0 | 0 | 110 | 96 | 93 | 160 | 54 | 37 |
| 11 | 0 | 0 | 61 | 0 | 0 | 111 | 98 | 100 | 161 | 52 | 70 |
| 12 | 0 | 0 | 62 | 0 | 0 | 112 | 100 | 100 | 162 | 52 | 70 |
| 13 | 0 | 0 | 63 | 0 | 0 | 113 | 100 | 100 | 163 | 53 | 37 |
| 14 | 0 | 0 | 64 | 0 | M | 114 | 102 | 100 | 164 | 54 | 20 |
| 15 | 0 | 0 | 65 | 4 | M | 115 | 102 | 100 | 165 | 56 | 20 |
| 16 | 0 | M | 66 | 1 | M | 116 | 100 | 97 | 166 | 56 | 24 |
| 17 | 0 | M | 67 | 0 | 5 | 117 | 100 | 90 | 167 | 57 | 44 |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 99 | 96 | 168 | 63 | 34 |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 98 | 93 | 169 | 62 | 34 |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 98 | 99 | 170 | 60 | 30 |
| 21 | 7 | M | 71 | 0 | 0 | 121 | 98 | 100 | 171 | 60 | 30 |
| 22 | 23 | M | 72 | 0 | 0 | 122 | 98 | 100 | 172 | 58 | 70 |
| 23 | 18 | M | 73 | 0 | 0 | 123 | 98 | 100 | 173 | 61 | 72 |
| 24 | 7 | M | 74 | 0 | 0 | 124 | 99 | 100 | 174 | 52 | 84 |
| 25 | 10 | M | 75 | 0 | 0 | 125 | 101 | 100 | 175 | 45 | 90 |
| 26 | 0 | 1 | 76 | 0 | 0 | 126 | 109 | 50 | 176 | 59 | 90 |
| 27 | 0 | 7 | 77 | 34 | 62 | 127 | 106 | 40 | 177 | 57 | 90 |
| 28 | 0 | 0 | 78 | 36 | 77 | 128 | 107 | 46 | 178 | 54 | 90 |
| 29 | 0 | 0 | 79 | 40 | 61 | 129 | 113 | 77 | 179 | 48 | 100 |
| 30 | 0 | 0 | 80 | 40 | 68 | 130 | 108 | 33 | 180 | 52 | 97 |
| 31 | 0 | 0 | 81 | 48 | 88 | 131 | 100 | M | 181 | 57 | 90 |
| 32 | 0 | 0 | 82 | 48 | 90 | 132 | 93 | M | 182 | 58 | 90 |
| 33 | 0 | 0 | 83 | 52 | 90 | 133 | 88 | 18 | 183 | 58 | 90 |
| 34 | 0 | 0 | 84 | 54 | 90 | 134 | 90 | 8 | 184 | 60 | 80 |
| 35 | 0 | 0 | 85 | 52 | 90 | 135 | 91 | M | 185 | 62 | 39 |
| 36 | 0 | 0 | 86 | 67 | 90 | 136 | 90 | M | 186 | 62 | 41 |
| 37 | 0 | 0 | 87 | 82 | 97 | 137 | 83 | 0 | 187 | 62 | 70 |
| 38 | 0 | 0 | 88 | 84 | 91 | 138 | 81 | 0 | 188 | 62 | 52 |
| 39 | 0 | 0 | 89 | 84 | 90 | 139 | 80 | 9 | 189 | 65 | 63 |
| 40 | 0 | 0 | 90 | 84 | 90 | 140 | 80 | 21 | 190 | 68 | 61 |
| 41 | 0 | 0 | 91 | 86 | 90 | 141 | 84 | 40 | 191 | 70 | 51 |
| 42 | 0 | 0 | 92 | 87 | 90 | 142 | 85 | 51 | 192 | 66 | 70 |
| 43 | 0 | 0 | 93 | 88 | 96 | 143 | 84 | 75 | 193 | 67 | 70 |
| 44 | 0 | 0 | 94 | 88 | 100 | 144 | 83 | 40 | 194 | 72 | 27 |
| 45 | 0 | 0 | 95 | 88 | 90 | 145 | 84 | 20 | 195 | 78 | M |
| 46 | 0 | 2 | 96 | 88 | 90 | 146 | 78 | 40 | 196 | 75 | M |
| 47 | 0 | 6 | 97 | 91 | 90 | 147 | 78 | 37 | 197 | 72 | M |
| 48 | 0 | 0 | 98 | 93 | 94 | 148 | 77 | 26 | 198 | 68 | 7 |
| 49 | 0 | 0 | 99 | 94 | 94 | 149 | 79 | 45 | 199 | 70 | 90 |
| 50 | 0 | 0 | 100 | 94 | 90 | 150 | 76 | 26 | 200 | 71 | 90 |

RPM AND POWER SCHEDULE FOR CYCLE 104099549 (CONTINUED)
ALL NY DSL FREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 73 | 71 | 226 | 106 | 14 | 251 | 81 | 34 | 276 | 24 | M |
| 202 | 76 | 60 | 227 | 105 | 10 | 252 | 81 | M | 277 | 20 | M |
| 203 | 82 | M | 228 | 99 | M | 253 | 85 | M | 278 | 20 | M |
| 204 | 77 | M | 229 | 100 | M | 254 | 82 | M | 279 | 24 | M |
| 205 | 70 | 1 | 230 | 91 | M | 255 | 83 | M | 280 | 25 | M |
| 206 | 73 | 26 | 231 | 67 | M | 256 | 81 | M | 281 | 5 | M |
| 207 | 76 | 14 | 232 | 62 | M | 257 | 82 | M | 282 | 0 | M |
| 208 | 83 | 17 | 233 | 62 | M | 258 | 80 | M | 283 | 0 | 0 |
| 209 | 88 | 20 | 234 | 59 | M | 259 | 78 | M | 284 | 0 | 0 |
| 210 | 90 | 21 | 235 | 102 | M | 260 | 82 | M | 285 | 0 | 0 |
| 211 | 90 | 28 | 236 | 100 | M | 261 | 80 | M | 286 | 0 | 0 |
| 212 | 90 | 27 | 237 | 91 | M | 262 | 82 | 28 | 287 | 0 | 0 |
| 213 | 90 | 40 | 238 | 75 | M | 263 | 83 | 20 | 288 | 0 | 0 |
| 214 | 93 | 67 | 239 | 73 | M | 264 | 82 | 14 | 289 | 0 | 0 |
| 215 | 96 | 80 | 240 | 70 | 21 | 265 | 72 | 10 | 290 | 0 | 0 |
| 216 | 96 | 80 | 241 | 70 | 39 | 266 | 75 | 10 | 291 | 0 | 0 |
| 217 | 94 | 80 | 242 | 70 | 43 | 267 | 64 | 10 | 292 | 0 | 0 |
| 218 | 96 | 61 | 243 | 68 | 70 | 268 | 55 | 8 | 293 | 0 | 0 |
| 219 | 94 | 25 | 244 | 70 | 74 | 269 | 49 | M | 294 | 0 | 0 |
| 220 | 93 | 49 | 245 | 74 | 80 | 270 | 46 | M | 295 | 0 | 0 |
| 221 | 91 | 68 | 246 | 78 | 80 | 271 | 31 | M | 296 | 0 | 0 |
| 222 | 94 | 70 | 247 | 76 | 80 | 272 | 13 | M | | | |
| 223 | 99 | 71 | 248 | 80 | 80 | 273 | 22 | M | | | |
| 224 | 104 | 64 | 249 | 82 | 80 | 274 | 26 | M | | | |
| 225 | 105 | 20 | 250 | 82 | 80 | 275 | 26 | 4 | | | |

SUMMARY MEASURES FOR CYCLE 2114147447

GENERATED FROM INPUT MATRIX: NY ALL DIESEL NON-FREEWAY

CYCLE DURATION = 4.95 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .3513E 00 |
| UPPER | .1314E 00 |
| DIAGONAL | .9889E 00 |
| LOWER | .4085E 00 |

MATRIX PERCENTAGES:

| | | CYCLE | INPUT |
|---|---|---|---|
| | UPPER | 18.90 | 21.44 |
| *** | DIAGONAL | 5.81 | 7.27 |
| | LOWER | 20.64 | 20.59 |
| | IDLE | 54.65 | 50.70 |

POWER MEASURES:

| | | CYCLE | INPUT |
|---|---|---|---|
| * | MEAN, % | 16.39 | 16.49 |
| | % ACCEL | 11.63 | 12.84 |
| | % DECEL | 11.92 | 12.35 |
| ** | % CRUISE | 13.66 | 12.11 |
| | % MOTORING | 7.85 | 11.36 |
| | % ZERO | 54.94 | 51.35 |

RPM MEASURES:

| | | CYCLE | INPUT |
|---|---|---|---|
| | MEAN, % | 19.54 | 20.12 |
| | % ACCEL | 14.24 | 16.88 |
| | % DECEL | 15.41 | 16.17 |
| ** | % CRUISE | 7.56 | 8.46 |
| | % ZERO | 62.79 | 58.49 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 2114147447
ALL NY DSL NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 56 | 80 | 151 | 10 | M |
| 2 | 0 | 0 | 52 | 0 | 0 | 102 | 58 | 80 | 152 | 0 | M |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 54 | 80 | 153 | 0 | M |
| 4 | 0 | 0 | 54 | 0 | 0 | 104 | 58 | 70 | 154 | 0 | M |
| 5 | 0 | 0 | 55 | 0 | 0 | 105 | 58 | 40 | 155 | 0 | 0 |
| 6 | 0 | 0 | 56 | 0 | 0 | 106 | 60 | 50 | 156 | 0 | 10 |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 66 | 50 | 157 | 0 | 0 |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 72 | 50 | 158 | 0 | 0 |
| 9 | 0 | 0 | 59 | 0 | 0 | 109 | 72 | 40 | 159 | 0 | 0 |
| 10 | 0 | 0 | 60 | 0 | 0 | 110 | 76 | 40 | 160 | 0 | 0 |
| 11 | 0 | 0 | 61 | 0 | 0 | 111 | 84 | 40 | 161 | 0 | 0 |
| 12 | 0 | 0 | 62 | 0 | 0 | 112 | 86 | 60 | 162 | 0 | 0 |
| 13 | 0 | 0 | 63 | 0 | 50 | 113 | 78 | M | 163 | 0 | 0 |
| 14 | 0 | 0 | 64 | 0 | 0 | 114 | 84 | M | 164 | 0 | 0 |
| 15 | 0 | 0 | 65 | 0 | 0 | 115 | 78 | M | 165 | 0 | 0 |
| 16 | 0 | 0 | 66 | 0 | 0 | 116 | 78 | M | 166 | 0 | 0 |
| 17 | 0 | 0 | 67 | 0 | 0 | 117 | 80 | M | 167 | 0 | 0 |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 80 | 30 | 168 | 0 | 0 |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 86 | 40 | 169 | 0 | 0 |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 84 | 50 | 170 | 0 | 0 |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 78 | 50 | 171 | 0 | 0 |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 78 | 50 | 172 | 0 | 0 |
| 23 | 0 | 0 | 73 | 0 | 0 | 123 | 82 | 40 | 173 | 0 | 0 |
| 24 | 0 | 0 | 74 | 0 | 0 | 124 | 94 | 80 | 174 | 0 | 0 |
| 25 | 0 | 0 | 75 | 0 | 50 | 125 | 88 | M | 175 | 0 | 0 |
| 26 | 0 | 0 | 76 | 0 | 40 | 126 | 84 | M | 176 | 0 | 0 |
| 27 | 0 | 10 | 77 | 8 | 90 | 127 | 84 | M | 177 | 0 | 0 |
| 28 | 0 | 10 | 78 | 10 | 80 | 128 | 84 | M | 178 | 0 | 0 |
| 29 | 0 | 10 | 79 | 18 | 80 | 129 | 78 | M | 179 | 0 | 0 |
| 30 | 0 | 0 | 80 | 36 | 80 | 130 | 66 | M | 180 | 0 | 0 |
| 31 | 0 | 0 | 81 | 38 | 80 | 131 | 66 | 20 | 181 | 0 | 0 |
| 32 | 0 | 0 | 82 | 34 | 40 | 132 | 62 | 30 | 182 | 0 | 0 |
| 33 | 0 | 0 | 83 | 18 | 30 | 133 | 64 | 20 | 183 | 0 | 0 |
| 34 | 0 | 0 | 84 | 30 | 20 | 134 | 64 | 20 | 184 | 0 | 0 |
| 35 | 0 | 0 | 85 | 30 | 10 | 135 | 62 | 10 | 185 | 0 | 0 |
| 36 | 0 | 0 | 86 | 18 | 20 | 136 | 58 | 10 | 186 | 0 | 0 |
| 37 | 0 | 0 | 87 | 20 | 30 | 137 | 56 | 10 | 187 | 0 | 0 |
| 38 | 0 | 0 | 88 | 20 | 20 | 138 | 56 | M | 188 | 0 | 0 |
| 39 | 0 | 0 | 89 | 20 | M | 139 | 52 | M | 189 | 0 | 0 |
| 40 | 0 | 0 | 90 | 6 | M | 140 | 40 | 10 | 190 | 0 | 0 |
| 41 | 0 | 0 | 91 | 8 | M | 141 | 38 | 10 | 191 | 0 | 0 |
| 42 | 0 | 0 | 92 | 26 | M | 142 | 30 | 10 | 192 | 0 | 0 |
| 43 | 0 | 0 | 93 | 22 | M | 143 | 30 | 10 | 193 | 0 | 0 |
| 44 | 0 | 0 | 94 | 16 | M | 144 | 26 | 10 | 194 | 0 | 0 |
| 45 | 0 | 0 | 95 | 14 | 70 | 145 | 26 | 20 | 195 | 4 | M |
| 46 | 0 | 0 | 96 | 16 | 70 | 146 | 28 | 0 | 196 | 0 | M |
| 47 | 0 | 0 | 97 | 26 | 60 | 147 | 28 | M | 197 | 0 | 0 |
| 48 | 0 | 0 | 98 | 34 | 60 | 148 | 28 | M | 198 | 0 | 0 |
| 49 | 0 | 0 | 99 | 42 | 70 | 149 | 24 | M | 199 | 2 | 10 |
| 50 | 0 | 0 | 100 | 52 | 80 | 150 | 14 | M | 200 | 4 | 0 |

RPM AND POWER SCHEDULE FOR CYCLE 2114147447 (CONTINUED)
ALL NY DSL NONFREEWAY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 0 | 0 | 238 | 0 | 0 | 275 | 0 | 0 | 312 | 100 | 20 |
| 202 | 0 | 0 | 239 | 0 | 0 | 276 | 0 | 0 | 313 | 102 | 20 |
| 203 | 0 | 0 | 240 | 0 | 0 | 277 | 0 | 0 | 314 | 100 | 20 |
| 204 | 0 | 0 | 241 | 0 | 0 | 278 | 0 | 0 | 315 | 100 | 40 |
| 205 | 0 | 0 | 242 | 0 | 0 | 279 | 0 | 0 | 316 | 96 | 40 |
| 206 | 0 | 0 | 243 | 0 | 0 | 280 | 0 | 0 | 317 | 96 | 30 |
| 207 | 0 | 0 | 244 | 0 | 0 | 281 | 0 | 0 | 318 | 94 | 30 |
| 208 | 0 | 0 | 245 | 0 | 0 | 282 | 0 | 0 | 319 | 96 | 40 |
| 209 | 0 | 0 | 246 | 0 | 0 | 283 | 0 | 0 | 320 | 98 | 30 |
| 210 | 0 | 0 | 247 | 0 | 0 | 284 | 0 | 0 | 321 | 100 | 30 |
| 211 | 0 | 0 | 248 | 0 | 0 | 285 | 0 | 0 | 322 | 100 | 50 |
| 212 | 0 | 0 | 249 | 0 | 0 | 286 | 0 | 0 | 323 | 102 | 50 |
| 213 | 0 | 0 | 250 | 0 | 0 | 287 | 0 | 0 | 324 | 88 | M |
| 214 | 0 | 0 | 251 | 0 | 0 | 288 | 0 | 0 | 325 | 64 | M |
| 215 | 0 | 0 | 252 | 0 | 0 | 289 | 0 | 0 | 326 | 62 | M |
| 216 | 0 | 20 | 253 | 0 | 0 | 290 | 0 | 0 | 327 | 46 | M |
| 217 | 0 | 0 | 254 | 0 | 0 | 291 | 0 | 0 | 328 | 46 | M |
| 218 | 0 | 0 | 255 | 0 | 0 | 292 | 0 | 0 | 329 | 40 | 70 |
| 219 | 0 | 0 | 256 | 0 | 0 | 293 | 0 | 90 | 330 | 38 | 80 |
| 220 | 0 | 0 | 257 | 0 | 0 | 294 | 0 | 90 | 331 | 36 | 80 |
| 221 | 0 | 0 | 258 | 0 | 20 | 295 | 30 | 80 | 332 | 32 | 80 |
| 222 | 0 | 0 | 259 | 0 | 20 | 296 | 40 | 90 | 333 | 26 | 80 |
| 223 | 0 | 0 | 260 | 0 | 20 | 297 | 44 | 90 | 334 | 24 | 80 |
| 224 | 0 | 0 | 261 | 0 | 0 | 298 | 44 | 90 | 335 | 22 | 40 |
| 225 | 0 | 0 | 262 | 0 | 0 | 299 | 48 | 90 | 336 | 16 | 20 |
| 226 | 0 | 0 | 263 | 0 | 0 | 300 | 52 | 80 | 337 | 12 | 50 |
| 227 | 0 | 0 | 264 | 0 | 0 | 301 | 68 | 80 | 338 | 10 | 70 |
| 228 | 0 | 0 | 265 | 0 | 0 | 302 | 74 | 90 | 339 | 4 | 70 |
| 229 | 0 | 30 | 266 | 0 | 0 | 303 | 88 | 90 | 340 | 2 | 60 |
| 230 | 0 | 30 | 267 | 0 | 0 | 304 | 96 | 90 | 341 | 0 | 0 |
| 231 | 0 | 20 | 268 | 0 | 0 | 305 | 98 | 100 | 342 | 0 | 0 |
| 232 | 0 | 20 | 269 | 0 | 0 | 306 | 96 | 10 | 343 | 0 | 0 |
| 233 | 0 | 20 | 270 | 0 | 0 | 307 | 94 | 20 | 344 | 0 | 0 |
| 234 | 0 | 0 | 271 | 0 | 0 | 308 | 100 | 30 | | | |
| 235 | 0 | 0 | 272 | 0 | 0 | 309 | 100 | 40 | | | |
| 236 | 0 | 0 | 273 | 0 | 0 | 310 | 100 | 30 | | | |
| 237 | 0 | 0 | 274 | 0 | 0 | 311 | 100 | 30 | | | |

RPM AND POWER SCHEDULE FOR CYCLE 2114147447
ALL NY DSL NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)

PAGE 1 OF 2

| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | C | 0 | 101 | 80 | M | 151 | 0 | 0 |
| 2 | 0 | 0 | 52 | 0 | 0 | 102 | 80 | 31 | 152 | 0 | 0 |
| 3 | 0 | 0 | 53 | 0 | 0 | 103 | 86 | 42 | 153 | 0 | 0 |
| 4 | 0 | 0 | 54 | 0 | 25 | 104 | 82 | 50 | 154 | 0 | 0 |
| 5 | 0 | 0 | 55 | 0 | 17 | 105 | 78 | 50 | 155 | 0 | 0 |
| 6 | 0 | 0 | 56 | C | 0 | 106 | 81 | 43 | 156 | 0 | 0 |
| 7 | 0 | 0 | 57 | 0 | 0 | 107 | 92 | 74 | 157 | 0 | 0 |
| 8 | 0 | 0 | 58 | 0 | 0 | 108 | 88 | M | 158 | 0 | 0 |
| 9 | 0 | 0 | 59 | C | 0 | 109 | 84 | M | 159 | 0 | 0 |
| 10 | 0 | 0 | 60 | C | 0 | 110 | 84 | M | 160 | 0 | 0 |
| 11 | 0 | 0 | 61 | C | 0 | 111 | 81 | M | 161 | 0 | 0 |
| 12 | 0 | 0 | 62 | C | 0 | 112 | 70 | M | 162 | 0 | 0 |
| 13 | 0 | 0 | 63 | C | 0 | 113 | 66 | 14 | 163 | 0 | 0 |
| 14 | 0 | 0 | 64 | C | 4 | 114 | 62 | 29 | 164 | 0 | 0 |
| 15 | 0 | 0 | 65 | C | 48 | 115 | 64 | 20 | 165 | 0 | 0 |
| 16 | 0 | 0 | 66 | 3 | 59 | 116 | 63 | 17 | 166 | 0 | 0 |
| 17 | 0 | 0 | 67 | 9 | 85 | 117 | 60 | 10 | 167 | 0 | 0 |
| 18 | 0 | 0 | 68 | 16 | 80 | 118 | 57 | 10 | 168 | 2 | M |
| 19 | 0 | 0 | 69 | 34 | 80 | 119 | 56 | M | 169 | 2 | M |
| 20 | 0 | 0 | 70 | 38 | 79 | 120 | 52 | M | 170 | 0 | M |
| 21 | 0 | 0 | 71 | 31 | 38 | 121 | 40 | 10 | 171 | 0 | 0 |
| 22 | 0 | 0 | 72 | 22 | 27 | 122 | 36 | 10 | 172 | 2 | 9 |
| 23 | 0 | 6 | 73 | 30 | 15 | 123 | 30 | 10 | 173 | 3 | 0 |
| 24 | 0 | 10 | 74 | 22 | 16 | 124 | 28 | 10 | 174 | 0 | 0 |
| 25 | 0 | 10 | 75 | 20 | 28 | 125 | 26 | 17 | 175 | 0 | 0 |
| 26 | 0 | 0 | 76 | 20 | 20 | 126 | 28 | 3 | 176 | 0 | 0 |
| 27 | 0 | 0 | 77 | 18 | M | 127 | 28 | M | 177 | 0 | 0 |
| 28 | 0 | 0 | 78 | 7 | M | 128 | 27 | M | 178 | 0 | 0 |
| 29 | 0 | 0 | 79 | 16 | M | 129 | 21 | M | 179 | 0 | 0 |
| 30 | 0 | 0 | 80 | 24 | M | 130 | 12 | M | 180 | 0 | 0 |
| 31 | 0 | 0 | 81 | 17 | M | 131 | 4 | M | 181 | 0 | 0 |
| 32 | 0 | 0 | 82 | 14 | 63 | 132 | 0 | M | 182 | 0 | 0 |
| 33 | 0 | 0 | 83 | 17 | 69 | 133 | 0 | M | 183 | 0 | 0 |
| 34 | 0 | 0 | 84 | 28 | 60 | 134 | 0 | 1 | 184 | 0 | 0 |
| 35 | 0 | 0 | 85 | 37 | 64 | 135 | 0 | 7 | 185 | 0 | 0 |
| 36 | 0 | 0 | 86 | 47 | 75 | 136 | 0 | 0 | 186 | 0 | 6 |
| 37 | 0 | 0 | 87 | 55 | 80 | 137 | 0 | 0 | 187 | 0 | 11 |
| 38 | 0 | 0 | 88 | 58 | 80 | 138 | 0 | 0 | 188 | 0 | 0 |
| 39 | 0 | 0 | 89 | 54 | 80 | 139 | 0 | 0 | 189 | 0 | 0 |
| 40 | 0 | 0 | 90 | 58 | 65 | 140 | 0 | 0 | 190 | 0 | 0 |
| 41 | 0 | 0 | 91 | 59 | 43 | 141 | 0 | 0 | 191 | 0 | 0 |
| 42 | 0 | 0 | 92 | 63 | 50 | 142 | 0 | 0 | 192 | 0 | 0 |
| 43 | 0 | 0 | 93 | 70 | 50 | 143 | 0 | 0 | 193 | 0 | 0 |
| 44 | 0 | 0 | 94 | 72 | 42 | 144 | 0 | 0 | 194 | 0 | 0 |
| 45 | 0 | 0 | 95 | 76 | 40 | 145 | 0 | 0 | 195 | 0 | 0 |
| 46 | 0 | 0 | 96 | 84 | 42 | 146 | 0 | 0 | 196 | 0 | 0 |
| 47 | 0 | 0 | 97 | 84 | 41 | 147 | 0 | 0 | 197 | 0 | 0 |
| 48 | 0 | 0 | 98 | 81 | M | 148 | 0 | 0 | 198 | 0 | 30 |
| 49 | 0 | 0 | 99 | 80 | M | 149 | 0 | 0 | 199 | 0 | 27 |
| 50 | 0 | 0 | 100 | 78 | M | 150 | 0 | 0 | 200 | 0 | 20 |

RPM AND POWER SCHEDULE FOR CYCLE 2114147447 (CONTINUED)
ALL NY DSL NONFREEWAY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 0 | 20 | 226 | 0 | 0 | 251 | 0 | 0 | 276 | 97 | 36 |
| 202 | 0 | 4 | 227 | 0 | 0 | 252 | 0 | 0 | 277 | 99 | 30 |
| 203 | 0 | 0 | 228 | 0 | 0 | 253 | 0 | 74 | 278 | 100 | 45 |
| 204 | 0 | 0 | 229 | 0 | 0 | 254 | 0 | 90 | 279 | 102 | 50 |
| 205 | 0 | 0 | 230 | 0 | 0 | 255 | 31 | 81 | 280 | 86 | M |
| 206 | 0 | 0 | 231 | 0 | 0 | 256 | 41 | 90 | 281 | 64 | M |
| 207 | 0 | 0 | 232 | 0 | 0 | 257 | 44 | 90 | 282 | 56 | M |
| 208 | 0 | 0 | 233 | 0 | 0 | 258 | 46 | 90 | 283 | 46 | M |
| 209 | 0 | 0 | 234 | 0 | 0 | 259 | 51 | 82 | 284 | 42 | 46 |
| 210 | 0 | 0 | 235 | 0 | 0 | 260 | 67 | 80 | 285 | 38 | 79 |
| 211 | 0 | 0 | 236 | 0 | 0 | 261 | 75 | 90 | 286 | 36 | 80 |
| 212 | 0 | 0 | 237 | 0 | 0 | 262 | 90 | 90 | 287 | 31 | 80 |
| 213 | 0 | 0 | 238 | 0 | 0 | 263 | 97 | 94 | 288 | 25 | 80 |
| 214 | 0 | 0 | 239 | 0 | 0 | 264 | 97 | 50 | 289 | 23 | 60 |
| 215 | 0 | 0 | 240 | 0 | 0 | 265 | 95 | 17 | 290 | 18 | 27 |
| 216 | 0 | 0 | 241 | 0 | 0 | 266 | 99 | 29 | 291 | 13 | 44 |
| 217 | 0 | 0 | 242 | 0 | 0 | 267 | 100 | 40 | 292 | 10 | 69 |
| 218 | 0 | 0 | 243 | 0 | 0 | 268 | 100 | 30 | 293 | 4 | 69 |
| 219 | 0 | 0 | 244 | 0 | 0 | 269 | 100 | 27 | 294 | 1 | 43 |
| 220 | 0 | 0 | 245 | 0 | 0 | 270 | 101 | 20 | 295 | 0 | 0 |
| 221 | 0 | 0 | 246 | 0 | 0 | 271 | 101 | 20 | 296 | 0 | 0 |
| 222 | 0 | 0 | 247 | 0 | 0 | 272 | 100 | 36 | 297 | 0 | 0 |
| 223 | 0 | 20 | 248 | 0 | 0 | 273 | 96 | 40 | | | |
| 224 | 0 | 20 | 249 | 0 | 0 | 274 | 96 | 30 | | | |
| 225 | 0 | 12 | 250 | 0 | 0 | 275 | 95 | 33 | | | |

SUMMARY MEASURES FOR CYCLE 2049482045

GENERATED FROM INPUT MATRIX: LA BUSES COMPOSITE

CYCLE DURATION = 4.81 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .2551E 00 |
| UPPER | .7860E 00 |
| DIAGONAL | .4403E 00 |
| LOWER | .4367E 00 |

MATRIX PERCENTAGES:

| | CYCLE | INPUT |
|---|---|---|
| UPPER | 33.23 | 34.22 |
| *** DIAGONAL | 9.88 | 14.76 |
| LOWER | 31.14 | 27.81 |
| IDLE | 25.75 | 23.21 |

POWER MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| * MEAN, % | 34.35 | 39.44 |
| % ACCEL | 14.07 | 14.18 |
| % DECEL | 14.67 | 13.26 |
| ** % CRUISE | 16.47 | 19.82 |
| % MOTORING | 28.74 | 29.27 |
| % ZERO | 26.05 | 23.47 |

RPM MEASURES:

| | CYCLE | INPUT |
|---|---|---|
| MEAN, % | 36.47 | 37.80 |
| % ACCEL | 28.14 | 29.96 |
| % DECEL | 25.75 | 23.35 |
| ** % CRUISE | 17.66 | 20.25 |
| % ZERO * | 28.44 | 26.44 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 2049482045
LA BUSES FWY + NFWY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 50 | M | 101 | 0 | 0 | 151 | 86 | 70 |
| 2 | 0 | 0 | 52 | 46 | M | 102 | 0 | 0 | 152 | 74 | 70 |
| 3 | 2 | M | 53 | 34 | M | 103 | 0 | 0 | 153 | 76 | 70 |
| 4 | 6 | 20 | 54 | 14 | M | 104 | 0 | 0 | 154 | 76 | M |
| 5 | 40 | 50 | 55 | 12 | M | 105 | 0 | 0 | 155 | 74 | M |
| 6 | 42 | 70 | 56 | 6 | M | 106 | 0 | 0 | 156 | 72 | M |
| 7 | 52 | 70 | 57 | 0 | M | 107 | 0 | 0 | 157 | 68 | M |
| 8 | 58 | 70 | 58 | 0 | 20 | 108 | 0 | 0 | 158 | 66 | M |
| 9 | 58 | 60 | 59 | 0 | 0 | 109 | 0 | 0 | 159 | 66 | M |
| 10 | 74 | 20 | 60 | 0 | 0 | 110 | 0 | 0 | 160 | 66 | M |
| 11 | 82 | 10 | 61 | 0 | 0 | 111 | 0 | 0 | 161 | 60 | M |
| 12 | 80 | M | 62 | 0 | 0 | 112 | 0 | 20 | 162 | 60 | M |
| 13 | 42 | M | 63 | 0 | 0 | 113 | 0 | 0 | 163 | 58 | M |
| 14 | 32 | M | 64 | 0 | 0 | 114 | 0 | 0 | 164 | 52 | M |
| 15 | 18 | M | 65 | 0 | 0 | 115 | 0 | 0 | 165 | 52 | M |
| 16 | 14 | M | 66 | 0 | 0 | 116 | 0 | 60 | 166 | 48 | M |
| 17 | 8 | M | 67 | 0 | 0 | 117 | 12 | 10 | 167 | 34 | M |
| 18 | 2 | M | 68 | 0 | 0 | 118 | 20 | 10 | 168 | 32 | M |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 8 | M | 169 | 14 | 10 |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 0 | 0 | 170 | 40 | 100 |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 0 | 0 | 171 | 40 | 100 |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 0 | 0 | 172 | 40 | 100 |
| 23 | 0 | 0 | 73 | 0 | 0 | 123 | 0 | 0 | 173 | 42 | 100 |
| 24 | 0 | 0 | 74 | 0 | 0 | 124 | 0 | 0 | 174 | 46 | 100 |
| 25 | 0 | 0 | 75 | 0 | 0 | 125 | 0 | 0 | 175 | 46 | 70 |
| 26 | 2 | 40 | 76 | 0 | 0 | 126 | 0 | 30 | 176 | 52 | 20 |
| 27 | 6 | 50 | 77 | 0 | 0 | 127 | 22 | 60 | 177 | 52 | M |
| 28 | 16 | 10 | 78 | 0 | 0 | 128 | 44 | 80 | 178 | 40 | M |
| 29 | 26 | 10 | 79 | 0 | 0 | 129 | 52 | 90 | 179 | 40 | M |
| 30 | 10 | 20 | 80 | 0 | 0 | 130 | 58 | 100 | 180 | 36 | M |
| 31 | 12 | 20 | 81 | 0 | 0 | 131 | 58 | 100 | 181 | 38 | M |
| 32 | 36 | 30 | 82 | 0 | 0 | 132 | 58 | 100 | 182 | 44 | 100 |
| 33 | 36 | 10 | 83 | 0 | 0 | 133 | 60 | 100 | 183 | 48 | 100 |
| 34 | 36 | 60 | 84 | 0 | 0 | 134 | 62 | 80 | 184 | 56 | 100 |
| 35 | 46 | 0 | 85 | 0 | 0 | 135 | 64 | 80 | 185 | 62 | 100 |
| 36 | 46 | 0 | 86 | 0 | 0 | 136 | 68 | 80 | 186 | 66 | 100 |
| 37 | 48 | 10 | 87 | 0 | 0 | 137 | 70 | 80 | 187 | 68 | 100 |
| 38 | 48 | 50 | 88 | 0 | 0 | 138 | 72 | 80 | 188 | 78 | 100 |
| 39 | 48 | 50 | 89 | 0 | 0 | 139 | 76 | 80 | 189 | 78 | 90 |
| 40 | 52 | 70 | 90 | 0 | 0 | 140 | 78 | 80 | 190 | 78 | 100 |
| 41 | 58 | 70 | 91 | 0 | 0 | 141 | 80 | 80 | 191 | 78 | 100 |
| 42 | 60 | 70 | 92 | 0 | 0 | 142 | 82 | 80 | 192 | 80 | 100 |
| 43 | 62 | 60 | 93 | 0 | 0 | 143 | 84 | 70 | 193 | 84 | 100 |
| 44 | 64 | 30 | 94 | 0 | 0 | 144 | 82 | 70 | 194 | 88 | 90 |
| 45 | 64 | 20 | 95 | 0 | 0 | 145 | 84 | 70 | 195 | 88 | 40 |
| 46 | 62 | M | 96 | 2 | M | 146 | 86 | 70 | 196 | 86 | 20 |
| 47 | 62 | M | 97 | 0 | M | 147 | 82 | 70 | 197 | 86 | 20 |
| 48 | 60 | M | 98 | 0 | 0 | 148 | 84 | 70 | 198 | 90 | M |
| 49 | 60 | M | 99 | 0 | 0 | 149 | 84 | 70 | 199 | 90 | M |
| 50 | 52 | M | 100 | 0 | 0 | 150 | 86 | 70 | 200 | 84 | M |

RPM AND POWER SCHEDULE FOR CYCLE 2049482045 (CONTINUED)
LA BUSES FWY + NFWY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 84 | 10 | 235 | 70 | 10 | 269 | 52 | M | 303 | 86 | M |
| 202 | 84 | 0 | 236 | 70 | 20 | 270 | 52 | M | 304 | 86 | M |
| 203 | 82 | M | 237 | 72 | M | 271 | 48 | M | 305 | 84 | M |
| 204 | 76 | M | 238 | 70 | M | 272 | 48 | 10 | 306 | 48 | M |
| 205 | 74 | M | 239 | 66 | M | 273 | 48 | 10 | 307 | 42 | M |
| 206 | 74 | M | 240 | 66 | M | 274 | 46 | 0 | 308 | 36 | M |
| 207 | 74 | M | 241 | 68 | M | 275 | 46 | M | 309 | 34 | M |
| 208 | 74 | M | 242 | 68 | 10 | 276 | 40 | M | 310 | 42 | M |
| 209 | 74 | M | 243 | 68 | 40 | 277 | 38 | M | 311 | 42 | M |
| 210 | 76 | M | 244 | 70 | 40 | 278 | 34 | M | 312 | 42 | M |
| 211 | 76 | 80 | 245 | 82 | 40 | 279 | 30 | M | 313 | 32 | M |
| 212 | 84 | 60 | 246 | 82 | 20 | 280 | 14 | M | 314 | 26 | M |
| 213 | 84 | 40 | 247 | 82 | M | 281 | 0 | 0 | 315 | 12 | M |
| 214 | 84 | 90 | 248 | 80 | M | 282 | 0 | 0 | 316 | 8 | M |
| 215 | 90 | M | 249 | 42 | M | 283 | 0 | 0 | 317 | 2 | M |
| 216 | 64 | M | 250 | 40 | M | 284 | 0 | 0 | 318 | 4 | M |
| 217 | 54 | M | 251 | 40 | M | 285 | 0 | 0 | 319 | 0 | 0 |
| 218 | 54 | M | 252 | 36 | M | 286 | 0 | 0 | 320 | 0 | 0 |
| 219 | 46 | M | 253 | 32 | M | 287 | 0 | 0 | 321 | 0 | 0 |
| 220 | 40 | M | 254 | 30 | M | 288 | 0 | 0 | 322 | 0 | 0 |
| 221 | 36 | M | 255 | 26 | M | 289 | 0 | 90 | 323 | 0 | 0 |
| 222 | 38 | M | 256 | 14 | M | 290 | 0 | 80 | 324 | 0 | 0 |
| 223 | 38 | M | 257 | 2 | 50 | 291 | 8 | 60 | 325 | 0 | 0 |
| 224 | 14 | M | 258 | 0 | 70 | 292 | 30 | 60 | 326 | 0 | 0 |
| 225 | 8 | M | 259 | 22 | 60 | 293 | 44 | 70 | 327 | 0 | 0 |
| 226 | 6 | M | 260 | 34 | 70 | 294 | 46 | 30 | 328 | 0 | 0 |
| 227 | 8 | 40 | 261 | 40 | 80 | 295 | 46 | 90 | 329 | 0 | 0 |
| 228 | 34 | 60 | 262 | 40 | 80 | 296 | 48 | 60 | 330 | 0 | 0 |
| 229 | 46 | 70 | 263 | 42 | 60 | 297 | 58 | 70 | 331 | 0 | 0 |
| 230 | 54 | 70 | 264 | 52 | 60 | 298 | 82 | 90 | 332 | 0 | 0 |
| 231 | 58 | 70 | 265 | 54 | 60 | 299 | 82 | 60 | 333 | 0 | 0 |
| 232 | 60 | 70 | 266 | 56 | M | 300 | 86 | 30 | 334 | 0 | 0 |
| 233 | 66 | 70 | 267 | 56 | M | 301 | 90 | M | | | |
| 234 | 70 | 70 | 268 | 54 | M | 302 | 88 | M | | | |

RPM AND POWER SCHEDULE FOR CYCLE 2049482045
LA BUSES FWY + NFWY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 0 | 0 | 101 | 11 | 15 | 151 | 46 | 77 |
| 2 | 1 | M | 52 | 0 | 0 | 102 | 19 | 9 | 152 | 52 | 24 |
| 3 | 4 | 4 | 53 | 0 | 0 | 103 | 6 | M | 153 | 51 | M |
| 4 | 27 | 39 | 54 | 0 | 0 | 104 | 0 | 0 | 154 | 40 | M |
| 5 | 42 | 66 | 55 | 0 | 0 | 105 | 0 | 0 | 155 | 38 | M |
| 6 | 51 | 70 | 56 | 0 | 0 | 106 | 0 | 0 | 156 | 37 | M |
| 7 | 58 | 69 | 57 | 0 | 0 | 107 | 0 | 0 | 157 | 42 | 68 |
| 8 | 62 | 50 | 58 | 0 | 0 | 108 | 0 | 0 | 158 | 47 | 100 |
| 9 | 77 | 16 | 59 | 0 | 0 | 109 | 3 | 35 | 159 | 56 | 100 |
| 10 | 81 | M | 60 | 0 | 0 | 110 | 29 | 66 | 160 | 63 | 100 |
| 11 | 52 | M | 61 | 0 | 0 | 111 | 48 | 85 | 161 | 67 | 100 |
| 12 | 33 | M | 62 | 0 | 0 | 112 | 56 | 96 | 162 | 73 | 100 |
| 13 | 18 | M | 63 | 0 | 0 | 113 | 58 | 100 | 163 | 78 | 93 |
| 14 | 13 | M | 64 | 0 | 0 | 114 | 58 | 100 | 164 | 78 | 98 |
| 15 | 6 | M | 65 | 0 | 0 | 115 | 60 | 98 | 165 | 78 | 100 |
| 16 | 1 | M | 66 | 0 | 0 | 116 | 63 | 80 | 166 | 81 | 100 |
| 17 | 0 | 0 | 67 | 0 | 0 | 117 | 66 | 80 | 167 | 85 | 97 |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 69 | 80 | 168 | 88 | 68 |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 71 | 80 | 169 | 87 | 28 |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 76 | 80 | 170 | 86 | 20 |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 78 | 80 | 171 | 90 | M |
| 22 | 1 | 19 | 72 | 0 | 0 | 122 | 80 | 80 | 172 | 90 | M |
| 23 | 4 | 46 | 73 | 0 | 0 | 123 | 83 | 76 | 173 | 84 | M |
| 24 | 14 | 19 | 74 | 0 | 0 | 124 | 83 | 70 | 174 | 84 | 6 |
| 25 | 25 | 10 | 75 | 0 | 0 | 125 | 83 | 70 | 175 | 83 | M |
| 26 | 10 | 20 | 76 | 0 | 0 | 126 | 86 | 70 | 176 | 78 | M |
| 27 | 18 | 23 | 77 | 0 | 0 | 127 | 82 | 70 | 177 | 74 | M |
| 28 | 36 | 22 | 78 | 0 | 0 | 128 | 84 | 70 | 178 | 74 | M |
| 29 | 36 | 38 | 79 | 0 | 0 | 129 | 85 | 70 | 179 | 74 | M |
| 30 | 43 | 17 | 80 | 0 | 0 | 130 | 86 | 70 | 180 | 74 | M |
| 31 | 46 | 0 | 81 | 0 | 0 | 131 | 79 | 70 | 181 | 75 | M |
| 32 | 48 | 11 | 82 | 0 | 0 | 132 | 76 | 70 | 182 | 76 | 48 |
| 33 | 48 | 50 | 83 | 2 | M | 133 | 76 | M | 183 | 82 | 64 |
| 34 | 49 | 57 | 84 | 0 | M | 134 | 74 | M | 184 | 84 | 41 |
| 35 | 55 | 70 | 85 | 0 | 0 | 135 | 71 | M | 185 | 85 | 78 |
| 36 | 59 | 70 | 86 | 0 | 0 | 136 | 67 | M | 186 | 83 | M |
| 37 | 62 | 62 | 87 | 0 | 0 | 137 | 66 | M | 187 | 60 | M |
| 38 | 64 | 31 | 88 | 0 | 0 | 138 | 66 | M | 188 | 54 | M |
| 39 | 64 | 16 | 89 | 0 | 0 | 139 | 61 | M | 189 | 48 | M |
| 40 | 62 | M | 90 | 0 | 0 | 140 | 60 | M | 190 | 41 | M |
| 41 | 61 | M | 91 | 0 | 0 | 141 | 57 | M | 191 | 36 | M |
| 42 | 60 | M | 92 | 0 | 0 | 142 | 52 | M | 192 | 38 | M |
| 43 | 54 | M | 93 | 0 | 0 | 143 | 50 | M | 193 | 29 | M |
| 44 | 50 | M | 94 | 0 | 0 | 144 | 39 | M | 194 | 11 | M |
| 45 | 45 | M | 95 | 0 | 0 | 145 | 32 | M | 195 | 7 | M |
| 46 | 29 | M | 96 | 0 | 2 | 146 | 14 | 10 | 196 | 8 | 33 |
| 47 | 13 | M | 97 | 0 | 15 | 147 | 40 | 100 | 197 | 34 | 60 |
| 48 | 9 | M | 98 | 0 | 0 | 148 | 40 | 100 | 198 | 47 | 70 |
| 49 | 2 | M | 99 | 0 | 0 | 149 | 41 | 100 | 199 | 55 | 70 |
| 50 | 0 | 16 | 100 | 0 | 44 | 150 | 44 | 100 | 200 | 59 | 70 |

RPM AND P[illegible]ER SCHEDULE FOR CYCLE 2049482045 (CONTINUED)
LA BUSES FWY + NFWY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 64 | 70 | 224 | 25 | 63 | 247 | 0 | 0 | 270 | 37 | M |
| 202 | 69 | 70 | 225 | 37 | 74 | 248 | 0 | 0 | 271 | 28 | M |
| 203 | 70 | 13 | 226 | 40 | 80 | 249 | 0 | 18 | 272 | 15 | M |
| 204 | 70 | 17 | 227 | 41 | 65 | 250 | 0 | 86 | 273 | 8 | M |
| 205 | 71 | M | 228 | 51 | 60 | 251 | 4 | 70 | 274 | 2 | M |
| 206 | 68 | M | 229 | 54 | 57 | 252 | 23 | 60 | 275 | 3 | M |
| 207 | 66 | M | 230 | 56 | M | 253 | 42 | 68 | 276 | 0 | 0 |
| 208 | 67 | M | 231 | 55 | M | 254 | 46 | 31 | 277 | 0 | 0 |
| 209 | 68 | 8 | 232 | 53 | M | 255 | 46 | 86 | 278 | 0 | 0 |
| 210 | 68 | 40 | 233 | 52 | M | 256 | 51 | 63 | 279 | 0 | 0 |
| 211 | 73 | 40 | 234 | 49 | M | 257 | 69 | 79 | 280 | 0 | 0 |
| 212 | 82 | 33 | 235 | 48 | 10 | 258 | 82 | 72 | 281 | 0 | 0 |
| 213 | 82 | 4 | 236 | 48 | 9 | 259 | 85 | 37 | 282 | 0 | 0 |
| 214 | 81 | M | 237 | 46 | M | 260 | 90 | M | 283 | 0 | 0 |
| 215 | 48 | M | 238 | 43 | M | 261 | 88 | M | 284 | 0 | 0 |
| 216 | 40 | M | 239 | 39 | M | 262 | 86 | M | 285 | 0 | 0 |
| 217 | 39 | M | 240 | 35 | M | 263 | 85 | M | 286 | 0 | 0 |
| 218 | 35 | M | 241 | 30 | M | 264 | 64 | M | 287 | 0 | 0 |
| 219 | 31 | M | 242 | 13 | M | 265 | 44 | M | 288 | 0 | 0 |
| 220 | 27 | M | 243 | 0 | 0 | 266 | 37 | M | 289 | 0 | 0 |
| 221 | 17 | M | 244 | 0 | 0 | 267 | 34 | M | | | |
| 222 | 3 | 47 | 245 | 0 | 0 | 268 | 42 | M | | | |
| 223 | 2 | 69 | 246 | 0 | 0 | 269 | 42 | M | | | |

SUMMARY MEASURES FOR CYCLE 2109178847

GENERATED FROM INPUT MATRIX: NY BUSES COMPOSITE

CYCLE DURATION = 4.78 MINUTES

KOLMOGOROV-SMIRNOV TESTS:

| | SIGNIFICANCE LEVEL |
|---|---|
| MATRIX | .5395E 00 |
| UPPER | .2820E 00 |
| DIAGONAL | .8818E 00 |
| LOWER | .4434E 00 |

MATRIX PERCENTAGES:

| | | CYCLE | INPUT |
|---|---|---|---|
| | UPPER | 29.82 | 27.81 |
| *** | DIAGONAL | 4.82 | 6.68 |
| | LOWER | 24.70 | 24.03 |
| | IDLE | 40.66 | 41.48 |

POWER MEASURES:

| | | CYCLE | INPUT |
|---|---|---|---|
| * | MEAN, % | 23.27 | 20.75 |
| | % ACCEL | 13.86 | 13.71 |
| | % DECEL | 12.35 | 13.50 |
| ** | % CRUISE | 13.86 | 13.22 |
| | % MOTORING | 18.67 | 17.65 |
| | % ZERO | 41.27 | 41.93 |

RPM MEASURES:

| | | CYCLE | INPUT |
|---|---|---|---|
| | MEAN, % | 27.28 | 26.56 |
| | % ACCEL | 26.81 | 24.29 |
| | % DECEL | 23.80 | 21.06 |
| ** | % CRUISE | 4.82 | 7.81 |
| | % ZERO | 44.58 | 46.84 |

* COMPUTED FROM NON-MOTORING POWERS ONLY

** THE ZERO AND MOTORING PERCENTAGES ARE HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

*** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE DIAGONAL PERCENTAGE

RPM AND POWER SCHEDULE FOR CYCLE 2109178847
NY BUSES FWY + NFWY C.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 0 | 0 | 51 | 72 | 80 | 101 | 80 | 90 | 151 | 82 | 90 |
| 2 | 6 | 30 | 52 | 72 | 80 | 102 | 82 | 70 | 152 | 82 | 90 |
| 3 | 6 | 70 | 53 | 74 | 80 | 103 | 86 | 70 | 153 | 92 | 60 |
| 4 | 40 | 70 | 54 | 76 | 80 | 104 | 80 | 10 | 154 | 94 | 50 |
| 5 | 66 | 70 | 55 | 88 | 60 | 105 | 82 | 20 | 155 | 94 | 20 |
| 6 | 76 | 70 | 56 | 96 | 60 | 106 | 84 | 20 | 156 | 96 | M |
| 7 | 48 | M | 57 | 102 | 60 | 107 | 74 | M | 157 | 90 | 70 |
| 8 | 42 | M | 58 | 102 | 70 | 108 | 36 | M | 158 | 92 | 70 |
| 9 | 16 | M | 59 | 104 | 70 | 109 | 44 | M | 159 | 84 | 30 |
| 10 | 8 | M | 60 | 104 | 70 | 110 | 44 | M | 160 | 84 | M |
| 11 | 0 | 0 | 61 | 68 | M | 111 | 28 | 20 | 161 | 80 | M |
| 12 | 0 | 0 | 62 | 60 | M | 112 | 60 | 80 | 162 | 28 | M |
| 13 | 2 | M | 63 | 58 | M | 113 | 64 | 80 | 163 | 16 | M |
| 14 | 0 | 0 | 64 | 52 | M | 114 | 52 | M | 164 | 4 | 60 |
| 15 | 0 | 0 | 65 | 18 | M | 115 | 20 | M | 165 | 12 | M |
| 16 | 0 | 0 | 66 | 6 | M | 116 | 12 | M | 166 | 6 | M |
| 17 | 0 | 0 | 67 | 0 | 0 | 117 | 2 | M | 167 | 0 | M |
| 18 | 0 | 0 | 68 | 0 | 0 | 118 | 0 | 0 | 168 | 0 | M |
| 19 | 0 | 0 | 69 | 0 | 0 | 119 | 0 | 0 | 169 | 0 | M |
| 20 | 0 | 0 | 70 | 0 | 0 | 120 | 0 | 0 | 170 | 0 | M |
| 21 | 0 | 0 | 71 | 0 | 0 | 121 | 0 | 0 | 171 | 0 | 0 |
| 22 | 0 | 0 | 72 | 0 | 0 | 122 | 0 | 0 | 172 | 0 | 0 |
| 23 | 0 | 0 | 73 | 4 | 80 | 123 | 0 | 0 | 173 | 0 | 0 |
| 24 | 0 | 0 | 74 | 42 | 80 | 124 | 0 | 0 | 174 | 0 | 0 |
| 25 | 0 | 0 | 75 | 50 | 70 | 125 | 0 | 0 | 175 | 0 | 0 |
| 26 | 0 | 0 | 76 | 54 | 70 | 126 | 0 | 0 | 176 | 2 | M |
| 27 | 0 | 0 | 77 | 56 | 70 | 127 | 0 | 0 | 177 | 0 | M |
| 28 | 10 | 30 | 78 | 78 | 70 | 128 | 0 | 0 | 178 | 0 | M |
| 29 | 48 | M | 79 | 84 | 60 | 129 | 0 | 0 | 179 | 0 | M |
| 30 | 42 | M | 80 | 88 | 70 | 130 | 0 | 0 | 180 | 0 | 0 |
| 31 | 22 | M | 81 | 90 | 60 | 131 | 0 | 0 | 181 | 0 | 0 |
| 32 | 0 | 0 | 82 | 94 | 70 | 132 | 0 | 0 | 182 | 0 | 0 |
| 33 | 0 | 0 | 83 | 92 | 80 | 133 | 0 | 0 | 183 | 0 | 0 |
| 34 | 0 | 40 | 84 | 90 | 70 | 134 | 0 | 0 | 184 | 0 | 0 |
| 35 | 36 | M | 85 | 92 | 70 | 135 | 0 | 0 | 185 | 0 | 0 |
| 36 | 8 | M | 86 | 94 | 70 | 136 | 0 | 0 | 186 | 0 | 0 |
| 37 | 30 | 10 | 87 | 74 | M | 137 | 0 | 0 | 187 | 0 | 0 |
| 38 | 32 | M | 88 | 74 | 20 | 138 | 0 | 0 | 188 | 12 | 70 |
| 39 | 24 | M | 89 | 76 | 20 | 139 | 0 | 0 | 189 | 78 | 60 |
| 40 | 30 | M | 90 | 56 | M | 140 | 0 | 0 | 190 | 86 | 60 |
| 41 | 10 | M | 91 | 56 | M | 141 | 0 | 0 | 191 | 88 | 70 |
| 42 | 10 | M | 92 | 44 | M | 142 | 0 | 0 | 192 | 86 | 40 |
| 43 | 26 | 20 | 93 | 42 | M | 143 | 6 | 100 | 193 | 80 | 20 |
| 44 | 46 | 50 | 94 | 30 | M | 144 | 32 | 100 | 194 | 82 | 20 |
| 45 | 56 | 70 | 95 | 4 | M | 145 | 60 | 100 | 195 | 84 | 20 |
| 46 | 58 | 70 | 96 | 0 | 0 | 146 | 68 | 100 | 196 | 86 | 0 |
| 47 | 56 | 70 | 97 | 0 | 0 | 147 | 72 | 60 | 197 | 82 | 0 |
| 48 | 60 | 80 | 98 | 0 | 20 | 148 | 74 | 80 | 198 | 78 | 0 |
| 49 | 62 | 80 | 99 | 12 | 100 | 149 | 76 | 80 | 199 | 66 | M |
| 50 | 66 | 80 | 100 | 70 | 90 | 150 | 78 | 90 | 200 | 64 | M |

RPM AND POWER SCHEDULE FOR CYCLE 2109178847 (CONTINUED)
NY BUSES FWY + NFWY 0.864-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 30 | M | 235 | C | 0 | 269 | 0 | 0 | 303 | 12 | M |
| 202 | 26 | M | 236 | C | 0 | 270 | 0 | 0 | 304 | 2 | M |
| 203 | 16 | M | 237 | C | 0 | 271 | 0 | 0 | 305 | 0 | 0 |
| 204 | 0 | 0 | 238 | 0 | 0 | 272 | 0 | 0 | 306 | 0 | 0 |
| 205 | 0 | 0 | 239 | 0 | 0 | 273 | 0 | 0 | 307 | 0 | 0 |
| 206 | 0 | 0 | 240 | 0 | 0 | 274 | 0 | 0 | 308 | 0 | 0 |
| 207 | 0 | 0 | 241 | C | 0 | 275 | 0 | 0 | 309 | 10 | 40 |
| 208 | 6 | 30 | 242 | 0 | 0 | 276 | 0 | 0 | 310 | 32 | 60 |
| 209 | 40 | 30 | 243 | C | 0 | 277 | 0 | 0 | 311 | 42 | 10 |
| 210 | 52 | 30 | 244 | C | 0 | 278 | 0 | 0 | 312 | 44 | 10 |
| 211 | 50 | 20 | 245 | C | 0 | 279 | 0 | 0 | 313 | 46 | 10 |
| 212 | 72 | M | 246 | C | 0 | 280 | 0 | 0 | 314 | 48 | M |
| 213 | 26 | M | 247 | C | 0 | 281 | 0 | 0 | 315 | 42 | M |
| 214 | 14 | M | 248 | 0 | 0 | 282 | 0 | 0 | 316 | 42 | M |
| 215 | 2 | M | 249 | C | 0 | 283 | 0 | 0 | 317 | 40 | M |
| 216 | 2 | M | 250 | C | 0 | 284 | 0 | 0 | 318 | 32 | M |
| 217 | 0 | M | 251 | C | 0 | 285 | 0 | 0 | 319 | 18 | M |
| 218 | 0 | M | 252 | 0 | 0 | 286 | 0 | 0 | 320 | 36 | 100 |
| 219 | 0 | M | 253 | C | 0 | 287 | 0 | 0 | 321 | 36 | 90 |
| 220 | 0 | 0 | 254 | 0 | 0 | 288 | 0 | 0 | 322 | 38 | 90 |
| 221 | 0 | 0 | 255 | 0 | 0 | 289 | 0 | 0 | 323 | 64 | 90 |
| 222 | 0 | 0 | 256 | C | 0 | 290 | 0 | 20 | 324 | 66 | 20 |
| 223 | 0 | 0 | 257 | C | 0 | 291 | 36 | 20 | 325 | 64 | 20 |
| 224 | 0 | 0 | 258 | C | 0 | 292 | 54 | 30 | 326 | 58 | M |
| 225 | 0 | 0 | 259 | C | 0 | 293 | 56 | 30 | 327 | 12 | M |
| 226 | 0 | 0 | 260 | 0 | 0 | 294 | 76 | 30 | 328 | 6 | M |
| 227 | 0 | 0 | 261 | C | 0 | 295 | 76 | 70 | 329 | 0 | 0 |
| 228 | 0 | 0 | 262 | 0 | 0 | 296 | 80 | 60 | 330 | 0 | 0 |
| 229 | 0 | 0 | 263 | C | 0 | 297 | 72 | M | 331 | 0 | 0 |
| 230 | 0 | 0 | 264 | C | 0 | 298 | 70 | M | 332 | 0 | 0 |
| 231 | 0 | 0 | 265 | C | 0 | 299 | 70 | M | | | |
| 232 | 0 | 0 | 266 | 0 | 0 | 300 | 68 | M | | | |
| 233 | 0 | 0 | 267 | C | 0 | 301 | 66 | M | | | |
| 234 | C | 0 | 268 | 0 | 0 | 302 | 60 | M | | | |

RPM AND POWER SCHEDULE FOR CYCLE 2109178847
NY BUSES FWY + NFWY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | | | | | | | | | |
| 1 | 1 | 5 | 51 | 104 | 70 | 101 | 3 | M | 151 | 0 | 0 |
| 2 | 6 | 43 | 52 | 97 | 55 | 102 | 0 | 0 | 152 | 2 | M |
| 3 | 22 | 70 | 53 | 65 | M | 103 | 0 | 0 | 153 | 0 | M |
| 4 | 56 | 70 | 54 | 59 | M | 104 | 0 | 0 | 154 | 0 | M |
| 5 | 74 | 70 | 55 | 54 | M | 105 | 0 | 0 | 155 | 0 | M |
| 6 | 50 | M | 56 | 24 | M | 106 | 0 | 0 | 156 | 0 | 0 |
| 7 | 39 | M | 57 | 6 | M | 107 | 0 | 0 | 157 | 0 | 0 |
| 8 | 14 | M | 58 | 0 | 0 | 108 | 0 | 0 | 158 | 0 | 0 |
| 9 | 5 | M | 59 | 0 | 0 | 109 | 0 | 0 | 159 | 0 | 0 |
| 10 | 0 | 0 | 60 | 0 | 0 | 110 | 0 | 0 | 160 | 0 | 0 |
| 11 | 1 | M | 61 | 0 | 0 | 111 | 0 | 0 | 161 | 0 | 0 |
| 12 | 0 | M | 62 | 0 | 0 | 112 | 0 | 0 | 162 | 6 | 35 |
| 13 | 0 | 0 | 63 | 4 | 73 | 113 | 0 | 0 | 163 | 55 | 63 |
| 14 | 0 | 0 | 64 | 43 | 79 | 114 | 0 | 0 | 164 | 85 | 60 |
| 15 | 0 | 0 | 65 | 51 | 70 | 115 | 0 | 0 | 165 | 88 | 70 |
| 16 | 0 | 0 | 66 | 55 | 70 | 116 | 0 | 0 | 166 | 85 | 37 |
| 17 | 0 | 0 | 67 | 68 | 70 | 117 | 0 | 0 | 167 | 81 | 20 |
| 18 | 0 | 0 | 68 | 82 | 63 | 118 | 0 | 0 | 168 | 83 | 20 |
| 19 | 0 | 0 | 69 | 87 | 69 | 119 | 0 | 0 | 169 | 85 | 8 |
| 20 | 0 | 0 | 70 | 90 | 60 | 120 | 0 | 0 | 170 | 83 | 0 |
| 21 | 0 | 0 | 71 | 94 | 72 | 121 | 0 | 0 | 171 | 78 | 0 |
| 22 | 0 | 0 | 72 | 91 | 77 | 122 | 0 | 0 | 172 | 66 | M |
| 23 | 0 | 0 | 73 | 91 | 70 | 123 | 2 | 36 | 173 | 56 | M |
| 24 | 8 | 23 | 74 | 93 | 70 | 124 | 19 | 100 | 174 | 28 | M |
| 25 | 46 | M | 75 | 78 | 6 | 125 | 51 | 100 | 175 | 21 | M |
| 26 | 40 | M | 76 | 74 | 19 | 126 | 67 | 100 | 176 | 5 | M |
| 27 | 16 | M | 77 | 74 | 16 | 127 | 72 | 60 | 177 | 0 | 0 |
| 28 | 0 | 0 | 78 | 56 | M | 128 | 74 | 80 | 178 | 0 | 0 |
| 29 | 0 | 23 | 79 | 51 | M | 129 | 77 | 83 | 179 | 1 | 5 |
| 30 | 26 | 4 | 80 | 43 | M | 130 | 80 | 90 | 180 | 17 | 30 |
| 31 | 11 | M | 81 | 33 | M | 131 | 82 | 90 | 181 | 46 | 30 |
| 32 | 30 | 9 | 82 | 6 | M | 132 | 90 | 67 | 182 | 51 | 24 |
| 33 | 30 | M | 83 | 0 | 0 | 133 | 94 | 51 | 183 | 68 | M |
| 34 | 26 | M | 84 | 0 | 4 | 134 | 94 | 17 | 184 | 28 | M |
| 35 | 20 | M | 85 | 5 | 50 | 135 | 94 | 10 | 185 | 13 | M |
| 36 | 10 | M | 86 | 43 | 95 | 136 | 91 | 70 | 186 | 2 | M |
| 37 | 23 | 15 | 87 | 77 | 90 | 137 | 87 | 47 | 187 | 1 | M |
| 38 | 46 | 49 | 88 | 82 | 73 | 138 | 84 | 1 | 188 | 0 | M |
| 39 | 56 | 70 | 89 | 86 | 69 | 139 | 80 | M | 189 | 0 | M |
| 40 | 57 | 70 | 90 | 80 | 12 | 140 | 28 | M | 190 | 0 | M |
| 41 | 58 | 75 | 91 | 83 | 20 | 141 | 14 | 4 | 191 | 0 | 0 |
| 42 | 61 | 80 | 92 | 79 | 6 | 142 | 7 | 35 | 192 | 0 | 0 |
| 43 | 65 | 80 | 93 | 50 | M | 143 | 9 | M | 193 | 0 | 0 |
| 44 | 72 | 80 | 94 | 42 | M | 144 | 2 | M | 194 | 0 | 0 |
| 45 | 72 | 80 | 95 | 44 | M | 145 | 0 | M | 195 | 0 | 0 |
| 46 | 74 | 80 | 96 | 32 | 27 | 146 | 0 | M | 196 | 0 | 0 |
| 47 | 81 | 72 | 97 | 61 | 80 | 147 | 0 | M | 197 | 0 | 0 |
| 48 | 92 | 60 | 98 | 59 | 42 | 148 | 0 | 0 | 198 | 0 | 0 |
| 49 | 100 | 60 | 99 | 33 | M | 149 | 0 | 0 | 199 | 0 | 0 |
| 50 | 102 | 69 | 100 | 14 | M | 150 | 0 | 0 | 200 | 0 | 0 |

RPM AND POWER SCHEDULE FOR CYCLE 2109178847 (CONTINUED)
NY BUSES FWY + NFWY 1-SEC INTERVAL
(M INDICATES MOTORING)



| RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR | RECORD | %RPM | %PWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 0 | 0 | 223 | 0 | 0 | 245 | 0 | 0 | 267 | 11 | 41 |
| 202 | 0 | 0 | 224 | 0 | 0 | 246 | 0 | 0 | 268 | 34 | 51 |
| 203 | 0 | 0 | 225 | 0 | 0 | 247 | 0 | 0 | 269 | 43 | 10 |
| 204 | 0 | 0 | 226 | 0 | 0 | 248 | 0 | 0 | 270 | 45 | 10 |
| 205 | 0 | 0 | 227 | 0 | 0 | 249 | 0 | 0 | 271 | 47 | M |
| 206 | 0 | 0 | 228 | 0 | 0 | 250 | 0 | 7 | 272 | 43 | M |
| 207 | 0 | 0 | 229 | 0 | 0 | 251 | 18 | 20 | 273 | 42 | M |
| 208 | 0 | 0 | 230 | 0 | 0 | 252 | 48 | 27 | 274 | 39 | M |
| 209 | 0 | 0 | 231 | 0 | 0 | 253 | 56 | 30 | 275 | 28 | M |
| 210 | 0 | 0 | 232 | 0 | 0 | 254 | 76 | 30 | 276 | 26 | 39 |
| 211 | 0 | 0 | 233 | 0 | 0 | 255 | 77 | 69 | 277 | 36 | 94 |
| 212 | 0 | 0 | 234 | 0 | 0 | 256 | 78 | 39 | 278 | 38 | 90 |
| 213 | 0 | 0 | 235 | 0 | 0 | 257 | 71 | M | 279 | 62 | 90 |
| 214 | 0 | 0 | 236 | 0 | 0 | 258 | 70 | M | 280 | 66 | 20 |
| 215 | 0 | 0 | 237 | 0 | 0 | 259 | 68 | M | 281 | 63 | 13 |
| 216 | 0 | 0 | 238 | 0 | 0 | 260 | 66 | M | 282 | 40 | M |
| 217 | 0 | 0 | 239 | 0 | 0 | 261 | 56 | M | 283 | 9 | M |
| 218 | 0 | 0 | 240 | 0 | 0 | 262 | 10 | M | 284 | 2 | M |
| 219 | 0 | 0 | 241 | 0 | 0 | 263 | 1 | M | 285 | 0 | 0 |
| 220 | 0 | 0 | 242 | 0 | 0 | 264 | 0 | 0 | 286 | 0 | 0 |
| 221 | 0 | 0 | 243 | 0 | 0 | 265 | 0 | 0 | 287 | 0 | 0 |
| 222 | 0 | 0 | 244 | 0 | 0 | 266 | 0 | 0 | | | |

# Appendix C

## CHASSIS MATRICES AND CHASSIS CYCLE STATISTICS AND SCHEDULES

INPUT INITIAL SPEED VS DELTA SPEED MATRIX
LA COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 23690 | 349 | 114 | 70 | 43 | 24266 |
| 1 | 0 | 0 | 0 | 464 | 813 | 285 | 129 | 54 | 27 | 1772 |
| 2 | 0 | 0 | 82 | 381 | 1003 | 342 | 144 | 52 | 26 | 2030 |
| 3 | 0 | 50 | 157 | 352 | 1010 | 407 | 149 | 48 | 31 | 2204 |
| 4 | 17 | 44 | 160 | 369 | 923 | 432 | 193 | 74 | 36 | 2248 |
| 5 | 21 | 77 | 170 | 361 | 743 | 428 | 190 | 61 | 29 | 2080 |
| 6 | 36 | 84 | 178 | 359 | 804 | 437 | 190 | 58 | 25 | 2171 |
| 7 | 28 | 79 | 183 | 365 | 958 | 452 | 157 | 56 | 33 | 2311 |
| 8 | 42 | 93 | 150 | 337 | 941 | 490 | 160 | 54 | 28 | 2295 |
| 9 | 69 | 102 | 174 | 321 | 954 | 539 | 148 | 81 | 29 | 2417 |
| 10 | 59 | 78 | 140 | 378 | 1029 | 558 | 172 | 62 | 29 | 2505 |
| 11 | 55 | 93 | 163 | 386 | 1098 | 587 | 156 | 57 | 29 | 2624 |
| 12 | 54 | 96 | 172 | 431 | 1212 | 618 | 185 | 70 | 30 | 2868 |
| 13 | 88 | 91 | 159 | 357 | 1237 | 619 | 176 | 62 | 30 | 2819 |
| 14 | 65 | 94 | 151 | 421 | 1203 | 680 | 173 | 46 | 26 | 2859 |
| 15 | 68 | 91 | 192 | 456 | 1905 | 684 | 186 | 60 | 26 | 3668 |
| 16 | 63 | 104 | 180 | 457 | 1306 | 685 | 179 | 60 | 28 | 3062 |
| 17 | 59 | 90 | 177 | 462 | 1284 | 721 | 222 | 70 | 28 | 3113 |
| 18 | 59 | 110 | 167 | 516 | 1419 | 844 | 231 | 66 | 21 | 3433 |
| 19 | 54 | 91 | 182 | 560 | 3011 | 830 | 196 | 44 | 27 | 4995 |
| 20 | 65 | 99 | 209 | 518 | 3059 | 814 | 185 | 47 | 32 | 5028 |
| 21 | 55 | 111 | 184 | 476 | 2047 | 901 | 193 | 55 | 36 | 4058 |
| 22 | 62 | 91 | 171 | 541 | 3973 | 1002 | 187 | 52 | 21 | 6100 |
| 23 | 47 | 101 | 228 | 594 | 4144 | 995 | 195 | 39 | 31 | 6374 |
| 24 | 67 | 83 | 173 | 623 | 1921 | 1026 | 166 | 43 | 21 | 4123 |
| 25 | 50 | 98 | 220 | 591 | 2297 | 1009 | 162 | 43 | 36 | 4506 |
| 26 | 57 | 85 | 195 | 633 | 3149 | 1132 | 166 | 40 | 22 | 5479 |
| 27 | 57 | 90 | 199 | 802 | 4312 | 1186 | 147 | 33 | 23 | 6849 |
| 28 | 27 | 80 | 199 | 793 | 3337 | 1178 | 126 | 45 | 23 | 5808 |
| 29 | 46 | 98 | 202 | 672 | 2720 | 1156 | 137 | 39 | 28 | 5098 |
| 30 | 44 | 80 | 176 | 710 | 3422 | 1195 | 162 | 45 | 23 | 5857 |
| 31 | 37 | 61 | 204 | 753 | 5030 | 1280 | 166 | 37 | 16 | 7584 |



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INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
LA COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 45 | 77 | 206 | 901 | 4334 | 1363 | 158 | 28 | 14 | 7126 |
| 33 | 47 | 85 | 204 | 920 | 4062 | 1520 | 144 | 34 | 21 | 7037 |
| 34 | 55 | 65 | 229 | 1125 | 5205 | 1718 | 213 | 43 | 11 | 8664 |
| 35 | 40 | 51 | 229 | 1301 | 5781 | 1928 | 191 | 40 | 15 | 9576 |
| 36 | 41 | 64 | 221 | 1293 | 7528 | 1815 | 151 | 39 | 7 | 11159 |
| 37 | 55 | 61 | 241 | 1268 | 7549 | 1732 | 175 | 42 | 7 | 11130 |
| 38 | 63 | 65 | 223 | 1216 | 7160 | 1888 | 196 | 45 | 2 | 10858 |
| 39 | 58 | 64 | 214 | 1368 | 9070 | 1994 | 182 | 42 | 4 | 12996 |
| 40 | 53 | 66 | 262 | 1565 | 10442 | 2124 | 149 | 32 | 6 | 14699 |
| 41 | 49 | 45 | 231 | 1583 | 12463 | 2116 | 124 | 35 | 4 | 16650 |
| 42 | 63 | 58 | 201 | 1659 | 13356 | 2208 | 143 | 39 | 3 | 17730 |
| 43 | 50 | 49 | 185 | 1741 | 12946 | 2511 | 176 | 30 | 1 | 17689 |
| 44 | 56 | 56 | 198 | 1887 | 13586 | 2682 | 151 | 38 | 0 | 18654 |
| 45 | 51 | 60 | 223 | 2059 | 16199 | 2642 | 160 | 33 | 0 | 21427 |
| 46 | 50 | 53 | 218 | 2069 | 18212 | 2880 | 173 | 41 | 0 | 23696 |
| 47 | 56 | 56 | 185 | 2180 | 21799 | 3220 | 185 | 28 | 0 | 27709 |
| 48 | 37 | 46 | 196 | 2523 | 26435 | 3757 | 206 | 27 | 1 | 33228 |
| 49 | 36 | 57 | 215 | 2911 | 31087 | 3835 | 224 | 28 | 0 | 38393 |
| 50 | 41 | 69 | 248 | 3209 | 34733 | 4569 | 284 | 47 | 0 | 43200 |
| 51 | 46 | 55 | 201 | 3696 | 39569 | 5794 | 412 | 31 | 0 | 49804 |
| 52 | 63 | 46 | 291 | 4397 | 46099 | 7038 | 460 | 29 | 1 | 58424 |
| 53 | 46 | 65 | 367 | 5025 | 53932 | 7020 | 356 | 45 | 0 | 66856 |
| 54 | 54 | 65 | 372 | 5040 | 63415 | 6653 | 341 | 18 | 0 | 75958 |
| 55 | 78 | 70 | 294 | 4638 | 66001 | 6947 | 319 | 13 | 0 | 78360 |
| 56 | 68 | 55 | 250 | 4591 | 61520 | 5741 | 229 | 3 | 0 | 72457 |
| 57 | 52 | 47 | 248 | 3414 | 42912 | 2954 | 143 | 2 | 0 | 49772 |
| 58 | 59 | 53 | 169 | 1624 | 24964 | 1497 | 108 | 0 | 0 | 28474 |
| 59 | 42 | 41 | 103 | 1066 | 14901 | 1318 | 0 | 0 | 0 | 17471 |
| 60 | 132 | 63 | 168 | 1078 | 22074 | 0 | 0 | 0 | 0 | 23515 |
| TOTALS | 3037 | 4251 | 11889 | 82786 | 783288 | 115325 | 11195 | 2555 | 990 | 1015316 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%)
LA COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3333 | 0.0344 | 0.0112 | 0.0069 | 0.0042 |
| 1 | 0.0 | 0.0 | 0.0 | 0.0457 | 0.0801 | 0.0281 | 0.0127 | 0.0053 | 0.0027 |
| 2 | 0.0 | 0.0 | 0.0081 | 0.0375 | 0.0988 | 0.0337 | 0.0142 | 0.0051 | 0.0026 |
| 3 | 0.0 | 0.0049 | 0.0155 | 0.0347 | 0.0995 | 0.0401 | 0.0147 | 0.0047 | 0.0031 |
| 4 | 0.0017 | 0.0043 | 0.0158 | 0.0363 | 0.0909 | 0.0425 | 0.0190 | 0.0073 | 0.0035 |
| 5 | 0.0021 | 0.0076 | 0.0167 | 0.0356 | 0.0732 | 0.0422 | 0.0187 | 0.0060 | 0.0029 |
| 6 | 0.0035 | 0.0083 | 0.0175 | 0.0354 | 0.0792 | 0.0430 | 0.0187 | 0.0057 | 0.0025 |
| 7 | 0.0028 | 0.0078 | 0.0180 | 0.0359 | 0.0944 | 0.0445 | 0.0155 | 0.0055 | 0.0033 |
| 8 | 0.0041 | 0.0092 | 0.0148 | 0.0332 | 0.0927 | 0.0483 | 0.0158 | 0.0053 | 0.0028 |
| 9 | 0.0068 | 0.0100 | 0.0171 | 0.0316 | 0.0940 | 0.0531 | 0.0146 | 0.0080 | 0.0029 |
| 10 | 0.0058 | 0.0077 | 0.0138 | 0.0372 | 0.1013 | 0.0550 | 0.0169 | 0.0061 | 0.0029 |
| 11 | 0.0054 | 0.0092 | 0.0161 | 0.0380 | 0.1081 | 0.0578 | 0.0154 | 0.0056 | 0.0029 |
| 12 | 0.0053 | 0.0095 | 0.0169 | 0.0424 | 0.1194 | 0.0609 | 0.0182 | 0.0069 | 0.0030 |
| 13 | 0.0087 | 0.0090 | 0.0157 | 0.0352 | 0.1218 | 0.0610 | 0.0173 | 0.0061 | 0.0030 |
| 14 | 0.0064 | 0.0093 | 0.0149 | 0.0415 | 0.1185 | 0.0670 | 0.0170 | 0.0045 | 0.0026 |
| 15 | 0.0067 | 0.0090 | 0.0189 | 0.0449 | 0.1876 | 0.0674 | 0.0183 | 0.0059 | 0.0026 |
| 16 | 0.0062 | 0.0102 | 0.0177 | 0.0450 | 0.1286 | 0.0675 | 0.0176 | 0.0059 | 0.0028 |
| 17 | 0.0058 | 0.0089 | 0.0174 | 0.0455 | 0.1265 | 0.0710 | 0.0219 | 0.0069 | 0.0028 |
| 18 | 0.0058 | 0.0108 | 0.0164 | 0.0508 | 0.1398 | 0.0831 | 0.0228 | 0.0065 | 0.0021 |
| 19 | 0.0053 | 0.0090 | 0.0179 | 0.0552 | 0.2966 | 0.0817 | 0.0193 | 0.0043 | 0.0027 |
| 20 | 0.0064 | 0.0098 | 0.0206 | 0.0510 | 0.3013 | 0.0802 | 0.0182 | 0.0046 | 0.0032 |
| 21 | 0.0054 | 0.0109 | 0.0181 | 0.0469 | 0.2016 | 0.0887 | 0.0190 | 0.0054 | 0.0035 |
| 22 | 0.0061 | 0.0090 | 0.0168 | 0.0533 | 0.3913 | 0.0987 | 0.0184 | 0.0051 | 0.0021 |
| 23 | 0.0046 | 0.0099 | 0.0225 | 0.0585 | 0.4081 | 0.0980 | 0.0192 | 0.0038 | 0.0031 |
| 24 | 0.0066 | 0.0082 | 0.0170 | 0.0614 | 0.1892 | 0.1011 | 0.0163 | 0.0042 | 0.0021 |
| 25 | 0.0049 | 0.0097 | 0.0217 | 0.0582 | 0.2262 | 0.0994 | 0.0160 | 0.0042 | 0.0035 |
| 26 | 0.0056 | 0.0084 | 0.0192 | 0.0623 | 0.3101 | 0.1115 | 0.0163 | 0.0039 | 0.0022 |
| 27 | 0.0056 | 0.0089 | 0.0196 | 0.0790 | 0.4247 | 0.1168 | 0.0145 | 0.0033 | 0.0023 |
| 28 | 0.0027 | 0.0079 | 0.0196 | 0.0781 | 0.3287 | 0.1160 | 0.0124 | 0.0044 | 0.0023 |
| 29 | 0.0045 | 0.0097 | 0.0199 | 0.0662 | 0.2679 | 0.1139 | 0.0135 | 0.0038 | 0.0028 |
| 30 | 0.0043 | 0.0079 | 0.0173 | 0.0699 | 0.3370 | 0.1177 | 0.0160 | 0.0044 | 0.0023 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%) (CONTINUED)
LA COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 0.0036 | 0.0060 | 0.0201 | 0.0742 | 0.4954 | 0.1261 | 0.0163 | 0.0036 | 0.0016 |
| 32 | 0.0044 | 0.0076 | 0.0203 | 0.0887 | 0.4269 | 0.1342 | 0.0156 | 0.0028 | 0.0014 |
| 33 | 0.0046 | 0.0084 | 0.0201 | 0.0906 | 0.4001 | 0.1497 | 0.0142 | 0.0033 | 0.0021 |
| 34 | 0.0054 | 0.0064 | 0.0226 | 0.1108 | 0.5126 | 0.1692 | 0.0210 | 0.0042 | 0.0011 |
| 35 | 0.0039 | 0.0050 | 0.0226 | 0.1281 | 0.5694 | 0.1899 | 0.0188 | 0.0039 | 0.0015 |
| 36 | 0.0040 | 0.0063 | 0.0218 | 0.1273 | 0.7414 | 0.1788 | 0.0149 | 0.0038 | 0.0007 |
| 37 | 0.0054 | 0.0060 | 0.0237 | 0.1249 | 0.7435 | 0.1706 | 0.0172 | 0.0041 | 0.0007 |
| 38 | 0.0062 | 0.0064 | 0.0220 | 0.1198 | 0.7052 | 0.1860 | 0.0193 | 0.0044 | 0.0002 |
| 39 | 0.0057 | 0.0063 | 0.0211 | 0.1347 | 0.8933 | 0.1964 | 0.0179 | 0.0041 | 0.0004 |
| 40 | 0.0052 | 0.0065 | 0.0258 | 0.1541 | 1.0284 | 0.2092 | 0.0147 | 0.0032 | 0.0006 |
| 41 | 0.0048 | .0044 | 0.0228 | 0.1559 | 1.2275 | 0.2084 | 0.0122 | 0.0034 | 0.0004 |
| 42 | 0.0062 | 0.0057 | 0.0198 | 0.1634 | 1.3155 | 0.2175 | 0.0141 | 0.0038 | 0.0003 |
| 43 | 0.0049 | 0.0048 | 0.0182 | 0.1715 | 1.2751 | 0.2473 | 0.0173 | 0.0030 | 0.0001 |
| 44 | 0.0055 | 0.0055 | 0.0195 | 0.1859 | 1.3381 | 0.2642 | 0.0149 | 0.0037 | 0.0 |
| 45 | 0.0050 | 0.0059 | 0.0220 | 0.2028 | 1.5955 | 0.2602 | 0.0158 | 0.0033 | 0.0 |
| 46 | 0.0049 | 0.0052 | 0.0215 | 0.2038 | 1.7937 | 0.2837 | 0.0170 | 0.0040 | 0.0 |
| 47 | 0.0055 | 0.0055 | 0.0182 | 0.2147 | 2.1470 | 0.3171 | 0.0182 | 0.0028 | 0.0 |
| 48 | 0.0036 | 0.0045 | 0.0193 | 0.2485 | 2.6036 | 0.3700 | 0.0203 | 0.0027 | 0.0001 |
| 49 | 0.0035 | 0.0056 | 0.0212 | 0.2867 | 3.0618 | 0.3777 | 0.0221 | 0.0028 | 0.0 |
| 50 | 0.0040 | 0.0068 | 0.0244 | 0.3161 | 3.4209 | 0.4500 | 0.0280 | 0.0046 | 0.0 |
| 51 | 0.0045 | 0.0054 | 0.0198 | 0.3640 | 3.8972 | 0.5707 | 0.0406 | 0.0031 | 0.0 |
| 52 | 0.0062 | 0.0045 | 0.0287 | 0.4331 | 4.5404 | 0.6932 | 0.0453 | 0.0029 | 0.0001 |
| 53 | 0.0045 | 0.0064 | 0.0361 | 0.4949 | 5.3118 | 0.6914 | 0.0351 | 0.0044 | 0.0 |
| 54 | 0.0053 | 0.0064 | 0.0366 | 0.4964 | 6.2458 | 0.6553 | 0.0336 | 0.0018 | 0.0 |
| 55 | 0.0077 | 0.0069 | 0.0290 | 0.4568 | 6.5005 | 0.6842 | 0.0314 | 0.0013 | 0.0 |
| 56 | 0.0067 | 0.0054 | 0.0246 | 0.4522 | 6.0592 | 0.5654 | 0.0226 | 0.0003 | 0.0 |
| 57 | 0.0051 | 0.0046 | 0.0244 | 0.3362 | 4.2265 | 0.2909 | 0.0141 | 0.0002 | 0.0 |
| 58 | 0.0058 | 0.0052 | 0.0166 | 0.1600 | 2.4587 | 0.1474 | 0.0106 | 0.0 | 0.0 |
| 59 | 0.0041 | 0.0040 | 0.0101 | 0.1050 | 1.4676 | 0.1298 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0130 | 0.0062 | 0.0165 | 0.1062 | 2.1741 | 0.0 | 0.0 | 0.0 | 0.0 |

TRANSITION-PROBABILITY MATRIX
LA COMBINED GAS & DSL - FREEWAY

| KPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9763 | 0.9906 | 0.9953 | 0.9982 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.2619 | 0.7207 | 0.8815 | 0.9543 | 0.9848 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.0404 | 0.2281 | 0.7222 | 0.8906 | 0.9616 | 0.9872 | 1.0000 |
| 3 | 0.0 | 0.0227 | 0.0939 | 0.2536 | 0.7119 | 0.8966 | 0.9642 | 0.9859 | 1.0000 |
| 4 | 0.0076 | 0.0271 | 0.0983 | 0.2625 | 0.6730 | 0.8652 | 0.9511 | 0.9840 | 1.0000 |
| 5 | 0.0101 | 0.0471 | 0.1288 | 0.3024 | 0.6596 | 0.8654 | 0.9567 | 0.9861 | 1.0000 |
| 6 | 0.0106 | 0.0553 | 0.1373 | 0.3026 | 0.6730 | 0.8743 | 0.9618 | 0.9885 | 1.0000 |
| 7 | 0.0121 | 0.0463 | 0.1255 | 0.2834 | 0.6980 | 0.8936 | 0.9615 | 0.9857 | 1.0000 |
| 8 | 0.0183 | 0.0588 | 0.1242 | 0.2710 | 0.6810 | 0.8946 | 0.9643 | 0.9878 | 1.0000 |
| 9 | 0.0285 | 0.0707 | 0.1427 | 0.2755 | 0.6703 | 0.8933 | 0.9545 | 0.9880 | 1.0000 |
| 10 | 0.0236 | 0.0547 | 0.1166 | 0.2615 | 0.6723 | 0.8950 | 0.9637 | 0.9884 | 1.0000 |
| 11 | 0.0210 | 0.0564 | 0.1185 | 0.2656 | 0.6841 | 0.9078 | 0.9672 | 0.9889 | 1.0000 |
| 12 | 0.0168 | 0.0523 | 0.1123 | 0.2626 | 0.6851 | 0.9006 | 0.9651 | 0.9895 | 1.0000 |
| 13 | 0.0312 | 0.0635 | 0.1199 | 0.2465 | 0.6853 | 0.9049 | 0.9674 | 0.9894 | 1.0000 |
| 14 | 0.0227 | 0.0556 | 0.1084 | 0.2557 | 0.6765 | 0.9143 | 0.9748 | 0.9909 | 1.0000 |
| 15 | 0.0185 | 0.0433 | 0.0957 | 0.2200 | 0.7394 | 0.9258 | 0.9766 | 0.9929 | 1.0000 |
| 16 | 0.0206 | 0.0545 | 0.1133 | 0.2626 | 0.6891 | 0.9128 | 0.9713 | 0.9909 | 1.0000 |
| 17 | 0.0190 | 0.0479 | 0.1047 | 0.2531 | 0.6656 | 0.8972 | 0.9685 | 0.9910 | 1.0000 |
| 18 | 0.0172 | 0.0492 | 0.0979 | 0.2482 | 0.6615 | 0.9074 | 0.9747 | 0.9939 | 1.0000 |
| 19 | 0.0108 | 0.0290 | 0.0655 | 0.1776 | 0.7804 | 0.9465 | 0.9858 | 0.9946 | 1.0000 |
| 20 | 0.0129 | 0.0326 | 0.0742 | 0.1772 | 0.7856 | 0.9475 | 0.9843 | 0.9936 | 1.0000 |
| 21 | 0.0136 | 0.0409 | 0.0862 | 0.2035 | 0.7080 | 0.9300 | 0.9776 | 0.9911 | 1.0000 |
| 22 | 0.0102 | 0.0251 | 0.0531 | 0.1418 | 0.7931 | 0.9574 | 0.9880 | 0.9966 | 1.0000 |
| 23 | 0.0074 | 0.0232 | 0.0550 | 0.1522 | 0.8023 | 0.9584 | 0.9890 | 0.9951 | 1.0000 |
| 24 | 0.0163 | 0.0364 | 0.0783 | 0.2294 | 0.6954 | 0.9442 | 0.9845 | 0.9949 | 1.0000 |
| 25 | 0.0111 | 0.0328 | 0.0817 | 0.2128 | 0.7226 | 0.9465 | 0.9825 | 0.9920 | 1.0000 |
| 26 | 0.0104 | 0.0259 | 0.0615 | 0.1770 | 0.7518 | 0.9584 | 0.9887 | 0.9960 | 1.0000 |
| 27 | 0.0083 | 0.0215 | 0.0505 | 0.1676 | 0.7972 | 0.9704 | 0.9918 | 0.9966 | 1.0000 |
| 28 | 0.0046 | 0.0184 | 0.0527 | 0.1892 | 0.7638 | 0.9666 | 0.9883 | 0.9960 | 1.0000 |
| 29 | 0.0093 | 0.0232 | 0.0679 | 0.1997 | 0.7332 | 0.9600 | 0.9869 | 0.9945 | 1.0000 |
| 30 | 0.0075 | 0.0212 | 0.0512 | 0.1724 | 0.7567 | 0.9607 | 0.9884 | 0.9961 | 1.0000 |
| 31 | 0.0049 | 0.0129 | 0.0358 | 0.1391 | 0.8023 | 0.9711 | 0.9930 | 0.9979 | 1.0000 |

TRANSITION-PROBABILITY MATRIX (CONTINUED)
LA COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0063 | 0.0171 | 0.0460 | 0.1725 | 0.7807 | 0.9719 | 0.9941 | 0.9980 | 1.0000 |
| 33 | 0.0067 | 0.0168 | 0.0477 | 0.1785 | 0.7557 | 0.9717 | 0.9922 | 0.9970 | 1.0000 |
| 34 | 0.0063 | 0.0139 | 0.0403 | 0.1701 | 0.7709 | 0.9692 | 0.9938 | 0.9987 | 1.0000 |
| 35 | 0.0042 | 0.0095 | 0.0334 | 0.1693 | 0.7730 | 0.9743 | 0.9943 | 0.9984 | 1.0000 |
| 36 | 0.0037 | 0.0094 | 0.0292 | 0.1451 | 0.8197 | 0.9823 | 0.9959 | 0.9994 | 1.0000 |
| 37 | 0.0049 | 0.0104 | 0.0321 | 0.1460 | 0.8243 | 0.9799 | 0.9956 | 0.9994 | 1.0000 |
| 38 | 0.0058 | 0.0118 | 0.0323 | 0.1443 | 0.8037 | 0.9776 | 0.9957 | 0.9998 | 1.0000 |
| 39 | 0.0045 | 0.0094 | 0.0259 | 0.1311 | 0.8290 | 0.9825 | 0.9965 | 0.9997 | 1.0000 |
| 40 | 0.0036 | 0.0081 | 0.0259 | 0.1324 | 0.8428 | 0.9873 | 0.9974 | 0.9996 | 1.0000 |
| 41 | 0.0029 | 0.0056 | 0.0155 | 0.1146 | 0.8631 | 0.9902 | 0.9977 | 0.9998 | 1.0000 |
| 42 | 0.0036 | 0.0068 | 0.0182 | 0.1117 | 0.8650 | 0.9896 | 0.9976 | 0.9998 | 1.0000 |
| 43 | 0.0028 | 0.0056 | 0.0161 | 0.1145 | 0.8463 | 0.9883 | 0.9982 | 0.9999 | 1.0000 |
| 44 | 0.0030 | 0.0060 | 0.0166 | 0.1178 | 0.8461 | 0.9899 | 0.9980 | 1.0000 | 1.0000 |
| 45 | 0.0024 | 0.0052 | 0.0156 | 0.1117 | 0.8677 | 0.9910 | 0.9985 | 1.0000 | 1.0000 |
| 46 | 0.0021 | 0.0043 | 0.0135 | 0.1009 | 0.8694 | 0.9910 | 0.9983 | 1.0000 | 1.0000 |
| 47 | 0.0029 | 0.0040 | 0.0107 | 0.0894 | 0.8761 | 0.9923 | 0.9990 | 1.0000 | 1.0000 |
| 48 | 0.0011 | 0.0025 | 0.0084 | 0.0843 | 0.8799 | 0.9930 | 0.9992 | 1.0000 | 1.0000 |
| 49 | 0.0009 | 0.0024 | 0.0080 | 0.0838 | 0.8935 | 0.9934 | 0.9993 | 1.0000 | 1.0000 |
| 50 | 0.0009 | 0.0025 | 0.0083 | 0.0826 | 0.8866 | 0.9923 | 0.9989 | 1.0000 | 1.0000 |
| 51 | 0.0009 | 0.0020 | 0.0061 | 0.0803 | 0.8748 | 0.9911 | 0.9994 | 1.0000 | 1.0000 |
| 52 | 0.0011 | 0.0019 | 0.0068 | 0.0821 | 0.8711 | 0.9916 | 0.9995 | 1.0000 | 1.0000 |
| 53 | 0.0007 | 0.0017 | 0.0071 | 0.0823 | 0.8890 | 0.9940 | 0.9993 | 1.0000 | 1.0000 |
| 54 | 0.0007 | 0.0016 | 0.0065 | 0.0728 | 0.9077 | 0.9953 | 0.9998 | 1.0000 | 1.0000 |
| 55 | 0.0010 | 0.0019 | 0.0056 | 0.0648 | 0.9071 | 0.9958 | 0.9998 | 1.0000 | 1.0000 |
| 56 | 0.0009 | 0.0017 | 0.0051 | 0.0685 | 0.9176 | 0.9968 | 1.0000 | 1.0000 | 1.0000 |
| 57 | 0.0010 | 0.0020 | 0.0070 | 0.0756 | 0.9377 | 0.9971 | 1.0000 | 1.0000 | 1.0000 |
| 58 | 0.0021 | 0.0039 | 0.0099 | 0.0669 | 0.9436 | 0.9962 | 1.0000 | 1.0000 | 1.0000 |
| 59 | 0.0024 | 0.0048 | 0.0106 | 0.0717 | 0.9246 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 60 | 0.0056 | 0.0083 | 0.0154 | 0.0613 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

LA COMBINED GAS & DSL - FREEWAY

THE STATISTICS FOR CYCLE 1539135071 ARE AS FOLLOWS:

KOLMOGOROV-SMIRNOV DIFFERENCES:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX: | 0.0694 | 0.101 |
| CRUISE: | 0.1348 | 0.001 |
| ACCEL: | 0.1285 | 0.303 |
| DECEL: | 0.1626 | 0.135 |
| SPEED: | 0.0497 | 0.428 |
| DEL SPD: | 0.0641 | 0.157 |

SUMMARY PERCENTAGE MEASURES:

| | INPUT | CYCLE |
|---|---|---|
| IDLE: | 2.33 | 2.58 |
| CRUISE: | 74.81 | 62.58 * |
| ACCEL: | 12.81 | 18.39 |
| DECEL: | 10.04 | 16.45 |

| | |
|---|---|
| AVERAGE SPEED FOR INPUT MATRIX: | 45.54 MPH |
| AVERAGE SPEED FOR CYCLE: | 44.79 MPH |
| CYCLE DISTANCE: | 3.33 MILES |
| CYCLE DURATION: | 4.46 MINUTES |

* THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE.

DRIVING SCHEDULE FOR CYCLE 1539135071

LA GAS + DSL FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | |
| 1 | 0 | 51 | 43 | 101 | 50 | 151 | 53 |
| 2 | 0 | 52 | 43 | 102 | 50 | 152 | 52 |
| 3 | 0 | 53 | 43 | 103 | 50 | 153 | 52 |
| 4 | 0 | 54 | 43 | 104 | 50 | 154 | 53 |
| 5 | 0 | 55 | 43 | 105 | 50 | 155 | 53 |
| 6 | 3 | 56 | 44 | 106 | 49 | 156 | 52 |
| 7 | 4 | 57 | 45 | 107 | 49 | 157 | 53 |
| 8 | 5 | 58 | 45 | 108 | 49 | 158 | 53 |
| 9 | 8 | 59 | 45 | 109 | 48 | 159 | 53 |
| 10 | 9 | 60 | 44 | 110 | 48 | 160 | 53 |
| 11 | 10 | 61 | 45 | 111 | 48 | 161 | 53 |
| 12 | 12 | 62 | 44 | 112 | 48 | 162 | 53 |
| 13 | 13 | 63 | 44 | 113 | 49 | 163 | 53 |
| 14 | 15 | 64 | 44 | 114 | 49 | 164 | 53 |
| 15 | 16 | 65 | 45 | 115 | 50 | 165 | 53 |
| 16 | 17 | 66 | 45 | 116 | 50 | 166 | 53 |
| 17 | 19 | 67 | 45 | 117 | 50 | 167 | 53 |
| 18 | 21 | 68 | 45 | 118 | 50 | 168 | 53 |
| 19 | 22 | 69 | 45 | 119 | 50 | 169 | 54 |
| 20 | 24 | 70 | 46 | 120 | 50 | 170 | 55 |
| 21 | 25 | 71 | 46 | 121 | 50 | 171 | 55 |
| 22 | 26 | 72 | 46 | 122 | 50 | 172 | 55 |
| 23 | 27 | 73 | 47 | 123 | 50 | 173 | 55 |
| 24 | 28 | 74 | 47 | 124 | 50 | 174 | 55 |
| 25 | 29 | 75 | 47 | 125 | 50 | 175 | 55 |
| 26 | 30 | 76 | 47 | 126 | 50 | 176 | 55 |
| 27 | 31 | 77 | 47 | 127 | 50 | 177 | 55 |
| 28 | 32 | 78 | 47 | 128 | 50 | 178 | 55 |
| 29 | 33 | 79 | 47 | 129 | 51 | 179 | 55 |
| 30 | 34 | 80 | 47 | 130 | 51 | 180 | 55 |
| 31 | 36 | 81 | 47 | 131 | 51 | 181 | 55 |
| 32 | 37 | 82 | 49 | 132 | 51 | 182 | 55 |
| 33 | 38 | 83 | 49 | 133 | 51 | 183 | 55 |
| 34 | 39 | 84 | 50 | 134 | 51 | 184 | 55 |
| 35 | 40 | 85 | 49 | 135 | 51 | 185 | 55 |
| 36 | 40 | 86 | 49 | 136 | 52 | 186 | 55 |
| 37 | 40 | 87 | 49 | 137 | 52 | 187 | 55 |
| 38 | 40 | 88 | 49 | 138 | 52 | 188 | 54 |
| 39 | 40 | 89 | 49 | 139 | 52 | 189 | 55 |
| 40 | 40 | 90 | 49 | 140 | 52 | 190 | 55 |
| 41 | 40 | 91 | 48 | 141 | 52 | 191 | 54 |
| 42 | 40 | 92 | 50 | 142 | 53 | 192 | 54 |
| 43 | 41 | 93 | 50 | 143 | 53 | 193 | 54 |
| 44 | 41 | 94 | 50 | 144 | 53 | 194 | 54 |
| 45 | 41 | 95 | 50 | 145 | 53 | 195 | 54 |
| 46 | 41 | 96 | 50 | 146 | 53 | 196 | 54 |
| 47 | 42 | 97 | 50 | 147 | 53 | 197 | 54 |
| 48 | 42 | 98 | 49 | 148 | 53 | 198 | 54 |
| 49 | 42 | 99 | 49 | 149 | 53 | 199 | 54 |
| 50 | 42 | 100 | 49 | 150 | 53 | 200 | 54 |

DRIVING SCHEDULE FOR CYCLE 1539135071

LA GAS + DSL FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 54 | 229 | 58 | 257 | 54 | 285 | 38 |
| 202 | 56 | 230 | 58 | 258 | 54 | 286 | 37 |
| 203 | 56 | 231 | 58 | 259 | 54 | 287 | 36 |
| 204 | 56 | 232 | 58 | 260 | 54 | 288 | 34 |
| 205 | 56 | 233 | 58 | 261 | 54 | 289 | 33 |
| 206 | 56 | 234 | 58 | 262 | 54 | 290 | 32 |
| 207 | 57 | 235 | 58 | 263 | 54 | 291 | 29 |
| 208 | 57 | 236 | 58 | 264 | 54 | 292 | 28 |
| 209 | 56 | 237 | 58 | 265 | 54 | 293 | 26 |
| 210 | 56 | 238 | 58 | 266 | 54 | 294 | 25 |
| 211 | 56 | 239 | 56 | 267 | 54 | 295 | 22 |
| 212 | 56 | 240 | 56 | 268 | 54 | 296 | 21 |
| 213 | 56 | 241 | 56 | 269 | 54 | 297 | 17 |
| 214 | 56 | 242 | 56 | 270 | 54 | 298 | 16 |
| 215 | 56 | 243 | 56 | 271 | 54 | 299 | 15 |
| 216 | 56 | 244 | 56 | 272 | 53 | 300 | 14 |
| 217 | 56 | 245 | 56 | 273 | 51 | 301 | 12 |
| 218 | 56 | 246 | 55 | 274 | 50 | 302 | 11 |
| 219 | 56 | 247 | 55 | 275 | 49 | 303 | 7 |
| 220 | 57 | 248 | 55 | 276 | 48 | 304 | 3 |
| 221 | 57 | 249 | 55 | 277 | 47 | 305 | 2 |
| 222 | 57 | 250 | 55 | 278 | 46 | 306 | 1 |
| 223 | 57 | 251 | 55 | 279 | 45 | 307 | 0 |
| 224 | 57 | 252 | 55 | 280 | 44 | 308 | 0 |
| 225 | 57 | 253 | 55 | 281 | 43 | 309 | 0 |
| 226 | 57 | 254 | 55 | 282 | 41 | 310 | 0 |
| 227 | 58 | 255 | 55 | 283 | 40 | | |
| 228 | 58 | 256 | 54 | 284 | 39 | | |

DRIVING SCHEDULE FOR
CYCLE 1539135071

LA GAS + DSL FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | | | | | | |
| 1 | 0.0 | 51 | 44.97 | 101 | 50.00 | 151 | 55.00 |
| 2 | 0.0 | 52 | 44.19 | 102 | 50.00 | 152 | 55.00 |
| 3 | 0.0 | 53 | 44.66 | 103 | 50.00 | 153 | 55.00 |
| 4 | 0.0 | 54 | 44.00 | 104 | 50.00 | 154 | 55.00 |
| 5 | 2.36 | 55 | 44.00 | 105 | 50.00 | 155 | 55.00 |
| 6 | 3.94 | 56 | 44.81 | 106 | 50.00 | 156 | 55.00 |
| 7 | 5.31 | 57 | 45.00 | 107 | 50.00 | 157 | 55.00 |
| 8 | 8.26 | 58 | 45.00 | 108 | 50.00 | 158 | 55.00 |
| 9 | 9.42 | 59 | 45.00 | 109 | 50.00 | 159 | 55.00 |
| 10 | 11.15 | 60 | 45.44 | 110 | 50.00 | 160 | 55.00 |
| 11 | 12.73 | 61 | 46.00 | 111 | 50.47 | 161 | 55.00 |
| 12 | 14.78 | 62 | 46.00 | 112 | 51.00 | 162 | 54.50 |
| 13 | 16.05 | 63 | 46.92 | 113 | 51.00 | 163 | 54.66 |
| 14 | 17.41 | 64 | 47.00 | 114 | 51.00 | 164 | 55.00 |
| 15 | 19.72 | 65 | 47.00 | 115 | 51.00 | 165 | 54.03 |
| 16 | 21.52 | 66 | 47.00 | 116 | 51.00 | 166 | 54.00 |
| 17 | 23.35 | 67 | 47.00 | 117 | 51.42 | 167 | 54.00 |
| 18 | 24.83 | 68 | 47.00 | 118 | 52.00 | 168 | 54.00 |
| 19 | 25.99 | 69 | 47.00 | 119 | 52.00 | 169 | 54.00 |
| 20 | 27.15 | 70 | 47.04 | 120 | 52.00 | 170 | 54.00 |
| 21 | 28.31 | 71 | 49.00 | 121 | 52.00 | 171 | 54.00 |
| 22 | 29.46 | 72 | 49.33 | 122 | 52.20 | 172 | 54.00 |
| 23 | 30.62 | 73 | 49.51 | 123 | 53.00 | 173 | 54.00 |
| 24 | 31.78 | 74 | 49.00 | 124 | 53.00 | 174 | 54.78 |
| 25 | 32.94 | 75 | 49.00 | 125 | 53.00 | 175 | 56.00 |
| 26 | 34.19 | 76 | 49.00 | 126 | 53.00 | 176 | 56.00 |
| 27 | 36.25 | 77 | 49.00 | 127 | 53.00 | 177 | 56.00 |
| 28 | 37.41 | 78 | 48.72 | 128 | 53.00 | 178 | 56.02 |
| 29 | 38.56 | 79 | 48.87 | 129 | 53.00 | 179 | 57.00 |
| 30 | 39.72 | 80 | 50.00 | 130 | 53.00 | 180 | 56.67 |
| 31 | 40.00 | 81 | 50.00 | 131 | 52.38 | 181 | 56.00 |
| 32 | 40.00 | 82 | 50.00 | 132 | 52.00 | 182 | 56.00 |
| 33 | 40.00 | 83 | 50.00 | 133 | 52.94 | 183 | 56.00 |
| 34 | 40.00 | 84 | 49.78 | 134 | 52.91 | 184 | 56.00 |
| 35 | 40.00 | 85 | 49.00 | 135 | 52.25 | 185 | 56.00 |
| 36 | 40.00 | 86 | 49.00 | 136 | 53.00 | 186 | 56.00 |
| 37 | 40.82 | 87 | 49.69 | 137 | 53.00 | 187 | 56.00 |
| 38 | 41.00 | 88 | 50.00 | 138 | 53.00 | 188 | 56.00 |
| 39 | 41.00 | 89 | 50.00 | 139 | 53.00 | 189 | 56.00 |
| 40 | 41.30 | 90 | 50.00 | 140 | 53.00 | 190 | 56.91 |
| 41 | 42.00 | 91 | 49.68 | 141 | 53.00 | 191 | 57.00 |
| 42 | 42.00 | 92 | 49.00 | 142 | 53.00 | 192 | 57.00 |
| 43 | 42.00 | 93 | 49.00 | 143 | 53.00 | 193 | 57.00 |
| 44 | 42.93 | 94 | 48.20 | 144 | 53.00 | 194 | 57.00 |
| 45 | 43.00 | 95 | 48.00 | 145 | 53.00 | 195 | 57.00 |
| 46 | 43.00 | 96 | 48.00 | 146 | 53.98 | 196 | 57.85 |
| 47 | 43.00 | 97 | 48.27 | 147 | 55.00 | 197 | 58.00 |
| 48 | 43.56 | 98 | 49.00 | 148 | 55.00 | 198 | 58.00 |
| 49 | 44.71 | 99 | 49.58 | 149 | 55.00 | 199 | 58.00 |
| 50 | 45.00 | 100 | 50.00 | 150 | 55.00 | 200 | 58.00 |

DRIVING SCHEDULE FOR
CYCLE 1539135071

LA GAS + DSL FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 58.00 | 218 | 55.00 | 235 | 53.01 | 252 | 28.33 |
| 202 | 58.00 | 219 | 55.00 | 236 | 50.85 | 253 | 26.35 |
| 203 | 58.00 | 220 | 55.00 | 237 | 49.69 | 254 | 25.02 |
| 204 | 58.00 | 221 | 54.21 | 238 | 48.54 | 255 | 21.86 |
| 205 | 58.00 | 222 | 54.00 | 239 | 47.38 | 256 | 19.81 |
| 206 | 57.15 | 223 | 54.00 | 240 | 46.22 | 257 | 16.55 |
| 207 | 56.00 | 224 | 54.00 | 241 | 45.06 | 258 | 15.39 |
| 208 | 56.00 | 225 | 54.00 | 242 | 43.91 | 259 | 14.23 |
| 209 | 56.00 | 226 | 54.00 | 243 | 42.50 | 260 | 12.15 |
| 210 | 56.00 | 227 | 54.00 | 244 | 40.59 | 261 | 10.67 |
| 211 | 56.00 | 228 | 54.00 | 245 | 39.44 | 262 | 6.04 |
| 212 | 55.63 | 229 | 54.00 | 246 | 38.28 | 263 | 2.60 |
| 213 | 55.00 | 230 | 54.00 | 247 | 37.12 | 264 | 1.44 |
| 214 | 55.00 | 231 | 54.00 | 248 | 35.93 | 265 | 0.29 |
| 215 | 55.00 | 232 | 54.00 | 249 | 33.81 | 266 | 0.0 |
| 216 | 55.00 | 233 | 54.00 | 250 | 32.65 | 267 | 0.0 |
| 217 | 55.00 | 234 | 54.00 | 251 | 30.47 | 268 | 0.0 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX
LA COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 371663 | 4739 | 1946 | 1338 | 529 | 380215 |
| 1 | 0 | 0 | 0 | 5769 | 10246 | 3492 | 1659 | 587 | 206 | 21959 |
| 2 | 0 | 0 | 1154 | 4321 | 9173 | 3697 | 1828 | 624 | 243 | 21040 |
| 3 | 0 | 890 | 1715 | 3586 | 9170 | 3933 | 1934 | 713 | 264 | 22205 |
| 4 | 212 | 600 | 1678 | 3516 | 9971 | 4207 | 2005 | 724 | 266 | 23179 |
| 5 | 212 | 670 | 1646 | 3392 | 9259 | 4444 | 2035 | 724 | 253 | 22635 |
| 6 | 292 | 840 | 1623 | 3312 | 9245 | 4343 | 1978 | 725 | 238 | 22596 |
| 7 | 348 | 868 | 1553 | 3131 | 8707 | 4206 | 1821 | 725 | 263 | 21622 |
| 8 | 433 | 869 | 1469 | 2905 | 7780 | 4284 | 1995 | 677 | 259 | 20671 |
| 9 | 552 | 867 | 1386 | 2869 | 7782 | 4641 | 2006 | 665 | 223 | 20991 |
| 10 | 552 | 767 | 1445 | 3020 | 7863 | 4587 | 2043 | 617 | 270 | 21184 |
| 11 | 510 | 775 | 1433 | 3048 | 6791 | 4506 | 1850 | 572 | 295 | 19780 |
| 12 | 551 | 985 | 1500 | 2722 | 6411 | 4646 | 1925 | 569 | 225 | 19534 |
| 13 | 607 | 821 | 1368 | 2520 | 5887 | 4500 | 2008 | 562 | 207 | 18480 |
| 14 | 546 | 796 | 1500 | 2554 | 5563 | 4513 | 1971 | 509 | 181 | 18133 |
| 15 | 534 | 855 | 1498 | 2542 | 5946 | 4497 | 1910 | 488 | 181 | 18451 |
| 16 | 557 | 870 | 1451 | 2517 | 5589 | 4441 | 1855 | 508 | 210 | 17998 |
| 17 | 508 | 843 | 1452 | 2591 | 5871 | 4605 | 1996 | 563 | 166 | 18595 |
| 18 | 542 | 802 | 1409 | 2664 | 6255 | 4921 | 1931 | 526 | 160 | 19210 |
| 19 | 468 | 764 | 1583 | 2901 | 6438 | 5085 | 1811 | 413 | 183 | 19646 |
| 20 | 435 | 750 | 1494 | 2868 | 6899 | 4990 | 1737 | 402 | 198 | 19773 |
| 21 | 465 | 772 | 1474 | 2880 | 7368 | 5053 | 1574 | 483 | 183 | 20252 |
| 22 | 433 | 690 | 1318 | 2929 | 8567 | 5139 | 1526 | 374 | 146 | 21122 |
| 23 | 405 | 657 | 1334 | 3045 | 9267 | 5258 | 1303 | 337 | 122 | 21728 |
| 24 | 367 | 609 | 1350 | 3147 | 8873 | 5261 | 1178 | 313 | 139 | 21237 |
| 25 | 400 | 609 | 1238 | 3036 | 9286 | 5192 | 1048 | 314 | 134 | 21257 |
| 26 | 390 | 500 | 1101 | 3108 | 9716 | 5203 | 972 | 282 | 85 | 21357 |
| 27 | 293 | 459 | 1159 | 3380 | 10140 | 5163 | 932 | 240 | 81 | 21847 |
| 28 | 222 | 413 | 1036 | 3479 | 10681 | 5022 | 725 | 176 | 76 | 21830 |
| 29 | 271 | 407 | 1017 | 3152 | 10659 | 4745 | 687 | 171 | 65 | 21174 |
| 30 | 221 | 320 | 815 | 3132 | 10821 | 4691 | 709 | 167 | 76 | 20952 |
| 31 | 190 | 252 | 779 | 3169 | 11225 | 4591 | 567 | 144 | 40 | 20957 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
LA COMBINED GAS & DSL - NONFREEWAY

| RPM | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 165 | 232 | 708 | 3125 | 11830 | 4148 | 435 | 97 | 57 | 20797 |
| 33 | 160 | 234 | 605 | 2864 | 11767 | 3719 | 396 | 144 | 47 | 19936 |
| 34 | 156 | 201 | 502 | 2620 | 12146 | 3521 | 416 | 130 | 38 | 19730 |
| 35 | 172 | 151 | 439 | 2608 | 10936 | 3376 | 353 | 81 | 23 | 18139 |
| 36 | 137 | 142 | 447 | 2257 | 9820 | 2885 | 281 | 84 | 13 | 16066 |
| 37 | 124 | 133 | 407 | 1938 | 9488 | 2519 | 248 | 59 | 12 | 14928 |
| 38 | 161 | 91 | 285 | 1685 | 8795 | 2191 | 235 | 68 | 9 | 13520 |
| 39 | 118 | 81 | 242 | 1518 | 7075 | 1956 | 223 | 54 | 5 | 11272 |
| 40 | 91 | 69 | 237 | 1375 | 6141 | 1642 | 149 | 30 | 1 | 9735 |
| 41 | 76 | 63 | 206 | 1087 | 5427 | 1246 | 116 | 32 | 0 | 8253 |
| 42 | 70 | 77 | 148 | 808 | 4489 | 1063 | 109 | 37 | 0 | 6801 |
| 43 | 54 | 48 | 104 | 701 | 3883 | 981 | 106 | 30 | 0 | 5907 |
| 44 | 58 | 38 | 99 | 620 | 2800 | 783 | 63 | 25 | 0 | 4486 |
| 45 | 39 | 27 | 101 | 487 | 2486 | 598 | 65 | 22 | 0 | 3825 |
| 46 | 36 | 34 | 87 | 344 | 2524 | 530 | 59 | 12 | 0 | 3626 |
| 47 | 59 | 17 | 44 | 340 | 2201 | 518 | 60 | 10 | 0 | 3249 |
| 48 | 43 | 22 | 59 | 281 | 1937 | 444 | 68 | 12 | 0 | 2866 |
| 49 | 24 | 13 | 62 | 282 | 1992 | 402 | 38 | 6 | 0 | 2819 |
| 50 | 34 | 15 | 38 | 281 | 2251 | 380 | 43 | 6 | 0 | 3048 |
| 51 | 33 | 12 | 29 | 250 | 2040 | 378 | 34 | 7 | 0 | 2783 |
| 52 | 25 | 8 | 20 | 238 | 2085 | 374 | 46 | 5 | 0 | 2801 |
| 53 | 15 | 9 | 32 | 242 | 2555 | 333 | 32 | 4 | 0 | 3222 |
| 54 | 19 | 9 | 30 | 212 | 2688 | 308 | 37 | 1 | 0 | 3304 |
| 55 | 20 | 8 | 15 | 192 | 2868 | 288 | 21 | 3 | 0 | 3415 |
| 56 | 26 | 7 | 22 | 170 | 2691 | 210 | 23 | 1 | 0 | 3150 |
| 57 | 16 | 4 | 18 | 113 | 1447 | 143 | 12 | 1 | 0 | 1754 |
| 58 | 8 | 3 | 16 | 81 | 770 | 77 | 8 | 0 | 0 | 963 |
| 59 | 9 | 6 | 10 | 55 | 650 | 77 | 0 | 0 | 0 | 807 |
| 60 | 36 | 6 | 4 | 56 | 2253 | 0 | 0 | 0 | 0 | 2355 |
| TOTALS | 13500 | 22100 | 45994 | 124035 | 767147 | 183685 | 55141 | 17193 | 6372 | 1235167 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%)
LA COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.0901 | 0.3837 | 0.1575 | 0.1083 | 0.0428 |
| 1 | 0.0 | 0.0 | 0.0 | 0.4671 | 0.8295 | 0.2827 | 0.1343 | 0.0475 | 0.0167 |
| 2 | 0.0 | 0.0 | 0.0934 | 0.3498 | 0.7427 | 0.2993 | 0.1480 | 0.0505 | 0.0197 |
| 3 | 0.0 | 0.0721 | 0.1388 | 0.2903 | 0.7424 | 0.3184 | 0.1566 | 0.0577 | 0.0214 |
| 4 | 0.0172 | 0.0486 | 0.1359 | 0.2847 | 0.8073 | 0.3406 | 0.1623 | 0.0586 | 0.0215 |
| 5 | 0.0172 | 0.0542 | 0.1333 | 0.2746 | 0.7496 | 0.3598 | 0.1648 | 0.0586 | 0.0205 |
| 6 | 0.0236 | 0.0680 | 0.1314 | 0.2681 | 0.7485 | 0.3516 | 0.1601 | 0.0587 | 0.0193 |
| 7 | 0.0282 | 0.0703 | 0.1257 | 0.2535 | 0.7049 | 0.3405 | 0.1474 | 0.0587 | 0.0213 |
| 8 | 0.0351 | 0.0704 | 0.1189 | 0.2352 | 0.6299 | 0.3468 | 0.1615 | 0.0548 | 0.0210 |
| 9 | 0.0447 | 0.0702 | 0.1122 | 0.2323 | 0.6300 | 0.3757 | 0.1624 | 0.0538 | 0.0181 |
| 10 | 0.0447 | 0.0637 | 0.1170 | 0.2445 | 0.6366 | 0.3714 | 0.1654 | 0.0500 | 0.0219 |
| 11 | 0.0413 | 0.0627 | 0.1160 | 0.2468 | 0.5498 | 0.3648 | 0.1498 | 0.0463 | 0.0239 |
| 12 | 0.0446 | 0.0797 | 0.1214 | 0.2204 | 0.5190 | 0.3761 | 0.1558 | 0.0461 | 0.0182 |
| 13 | 0.0491 | 0.0665 | 0.1108 | 0.2040 | 0.4766 | 0.3643 | 0.1626 | 0.0455 | 0.0168 |
| 14 | 0.0442 | 0.0644 | 0.1214 | 0.2068 | 0.4504 | 0.3654 | 0.1596 | 0.0412 | 0.0147 |
| 15 | 0.0432 | 0.0692 | 0.1213 | 0.2058 | 0.4814 | 0.3641 | 0.1546 | 0.0395 | 0.0147 |
| 16 | 0.0451 | 0.0704 | 0.1175 | 0.2038 | 0.4525 | 0.3595 | 0.1502 | 0.0411 | 0.0170 |
| 17 | 0.0411 | 0.0682 | 0.1176 | 0.2098 | 0.4753 | 0.3728 | 0.1616 | 0.0456 | 0.0134 |
| 18 | 0.0439 | 0.0649 | 0.1141 | 0.2157 | 0.5064 | 0.3984 | 0.1563 | 0.0426 | 0.0130 |
| 19 | 0.0379 | 0.0619 | 0.1282 | 0.2349 | 0.5212 | 0.4117 | 0.1466 | 0.0334 | 0.0148 |
| 20 | 0.0352 | 0.0607 | 0.1210 | 0.2322 | 0.5585 | 0.4040 | 0.1406 | 0.0325 | 0.0160 |
| 21 | 0.0376 | 0.0625 | 0.1193 | 0.2332 | 0.5965 | 0.4091 | 0.1274 | 0.0391 | 0.0148 |
| 22 | 0.0351 | 0.0559 | 0.1067 | 0.2371 | 0.6936 | 0.4161 | 0.1235 | 0.0303 | 0.0118 |
| 23 | 0.0328 | 0.0532 | 0.1080 | 0.2465 | 0.7503 | 0.4257 | 0.1055 | 0.0273 | 0.0099 |
| 24 | 0.0297 | 0.0493 | 0.1093 | 0.2548 | 0.7184 | 0.4259 | 0.0954 | 0.0253 | 0.0113 |
| 25 | 0.0324 | 0.0493 | 0.1002 | 0.2458 | 0.7518 | 0.4203 | 0.0848 | 0.0254 | 0.0108 |
| 26 | 0.0316 | 0.0435 | 0.0891 | 0.2516 | 0.7866 | 0.4212 | 0.0787 | 0.0228 | 0.0069 |
| 27 | 0.0237 | 0.0372 | 0.0938 | 0.2736 | 0.8209 | 0.4180 | 0.0755 | 0.0194 | 0.0066 |
| 28 | 0.0180 | 0.0334 | 0.0839 | 0.2817 | 0.8647 | 0.4066 | 0.0587 | 0.0142 | 0.0062 |
| 29 | 0.0219 | 0.0330 | 0.0823 | 0.2552 | 0.8630 | 0.3842 | 0.0556 | 0.0138 | 0.0053 |
| 30 | 0.0179 | 0.0259 | 0.0660 | 0.2536 | 0.8761 | 0.3798 | 0.0574 | 0.0135 | 0.0062 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%) (CONTINUED)
LA COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 0.0154 | 0.0204 | 0.0631 | 0.2566 | 0.9088 | 0.3717 | 0.0459 | 0.0117 | 0.0032 |
| 32 | 0.0134 | 0.0188 | 0.0573 | 0.2530 | 0.9578 | 0.3358 | 0.0352 | 0.0079 | 0.0046 |
| 33 | 0.0130 | 0.0189 | 0.0490 | 0.2319 | 0.9527 | 0.3011 | 0.0321 | 0.0117 | 0.0038 |
| 34 | 0.0126 | 0.0163 | 0.0406 | 0.2121 | 0.9833 | 0.2851 | 0.0337 | 0.0105 | 0.0031 |
| 35 | 0.0139 | 0.0122 | 0.0355 | 0.2111 | 0.8854 | 0.2733 | 0.0286 | 0.0066 | 0.0019 |
| 36 | 0.0111 | 0.0115 | 0.0362 | 0.1827 | 0.7950 | 0.2336 | 0.0227 | 0.0068 | 0.0011 |
| 37 | 0.0130 | 0.0108 | 0.0330 | 0.1569 | 0.7682 | 0.2039 | 0.0201 | 0.0048 | 0.0010 |
| 38 | 0.0130 | 0.0074 | 0.0231 | 0.1364 | 0.7120 | 0.1774 | 0.0190 | 0.0055 | 0.0007 |
| 39 | 0.0096 | 0.0066 | 0.0196 | 0.1229 | 0.5728 | 0.1584 | 0.0181 | 0.0044 | 0.0004 |
| 40 | 0.0074 | 0.0056 | 0.0192 | 0.1113 | 0.4972 | 0.1329 | 0.0121 | 0.0024 | 0.0001 |
| 41 | 0.0062 | 0.0051 | 0.0167 | 0.0880 | 0.4394 | 0.1009 | 0.0094 | 0.0026 | 0.0 |
| 42 | 0.0057 | 0.0062 | 0.0120 | 0.0654 | 0.3634 | 0.0861 | 0.0088 | 0.0030 | 0.0 |
| 43 | 0.0044 | 0.0039 | 0.0084 | 0.0568 | 0.3144 | 0.0794 | 0.0086 | 0.0024 | 0.0 |
| 44 | 0.0047 | 0.0031 | 0.0080 | 0.0502 | 0.2267 | 0.0634 | 0.0051 | 0.0020 | 0.0 |
| 45 | 0.0032 | 0.0022 | 0.0082 | 0.0394 | 0.2013 | 0.0484 | 0.0053 | 0.0018 | 0.0 |
| 46 | 0.0029 | 0.0028 | 0.0070 | 0.0279 | 0.2043 | 0.0429 | 0.0048 | 0.0010 | 0.0 |
| 47 | 0.0048 | 0.0014 | 0.0036 | 0.0275 | 0.1782 | 0.0419 | 0.0049 | 0.0008 | 0.0 |
| 48 | 0.0035 | 0.0018 | 0.0048 | 0.0227 | 0.1568 | 0.0359 | 0.0055 | 0.0010 | 0.0 |
| 49 | 0.0019 | 0.0011 | 0.0050 | 0.0228 | 0.1613 | 0.0325 | 0.0031 | 0.0005 | 0.0 |
| 50 | 0.0028 | 0.0012 | 0.0031 | 0.0227 | 0.1822 | 0.0308 | 0.0035 | 0.0005 | 0.0 |
| 51 | 0.0027 | 0.0010 | 0.0023 | 0.0202 | 0.1652 | 0.0306 | 0.0028 | 0.0006 | 0.0 |
| 52 | 0.0020 | 0.0006 | 0.0016 | 0.0193 | 0.1688 | 0.0303 | 0.0037 | 0.0004 | 0.0 |
| 53 | 0.0012 | 0.0007 | 0.0026 | 0.0196 | 0.2069 | 0.0270 | 0.0026 | 0.0003 | 0.0 |
| 54 | 0.0015 | 0.0007 | 0.0024 | 0.0172 | 0.2176 | 0.0249 | 0.0030 | 0.0001 | 0.0 |
| 55 | 0.0016 | 0.0006 | 0.0012 | 0.0155 | 0.2322 | 0.0233 | 0.0017 | 0.0002 | 0.0 |
| 56 | 0.0021 | 0.0006 | 0.0018 | 0.0138 | 0.2179 | 0.0170 | 0.0019 | 0.0001 | 0.0 |
| 57 | 0.0013 | 0.0003 | 0.0015 | 0.0091 | 0.1172 | 0.0116 | 0.0010 | 0.0001 | 0.0 |
| 58 | 0.0006 | 0.0002 | 0.0013 | 0.0066 | 0.0623 | 0.0062 | 0.0006 | 0.0 | 0.0 |
| 59 | 0.0007 | 0.0005 | 0.0008 | 0.0045 | 0.0526 | 0.0062 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0029 | 0.0005 | 0.0003 | 0.0045 | 0.1824 | 0.0 | 0.0 | 0.0 | 0.0 |

TRANSITION-PROBABILITY MATRIX
LA COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9775 | 0.9900 | 0.9951 | 0.9986 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.2627 | 0.7293 | 0.8883 | 0.9639 | 0.9906 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.0548 | 0.2602 | 0.6962 | 0.8719 | 0.9588 | 0.9885 | 1.0000 |
| 3 | 0.0 | 0.0401 | 0.1173 | 0.2788 | 0.6918 | 0.8689 | 0.9560 | 0.9881 | 1.0000 |
| 4 | 0.0091 | 0.0350 | 0.1074 | 0.2591 | 0.6893 | 0.8708 | 0.9573 | 0.9885 | 1.0000 |
| 5 | 0.0094 | 0.0390 | 0.1117 | 0.2615 | 0.6706 | 0.8669 | 0.9568 | 0.9888 | 1.0000 |
| 6 | 0.0129 | 0.0501 | 0.1219 | 0.2685 | 0.6776 | 0.8698 | 0.9574 | 0.9895 | 1.0000 |
| 7 | 0.0161 | 0.0562 | 0.1281 | 0.2729 | 0.6756 | 0.8701 | 0.9543 | 0.9878 | 1.0000 |
| 8 | 0.0209 | 0.0630 | 0.1341 | 0.2746 | 0.6510 | 0.8582 | 0.9547 | 0.9875 | 1.0000 |
| 9 | 0.0263 | 0.0676 | 0.1336 | 0.2703 | 0.6410 | 0.8621 | 0.9577 | 0.9894 | 1.0000 |
| 10 | 0.0261 | 0.0632 | 0.1314 | 0.2740 | 0.6452 | 0.8617 | 0.9581 | 0.9873 | 1.0000 |
| 11 | 0.0258 | 0.0650 | 0.1374 | 0.2915 | 0.6348 | 0.8626 | 0.9562 | 0.9851 | 1.0000 |
| 12 | 0.0282 | 0.0786 | 0.1554 | 0.2948 | 0.6230 | 0.8608 | 0.9594 | 0.9885 | 1.0000 |
| 13 | 0.0328 | 0.0773 | 0.1513 | 0.2877 | 0.6062 | 0.8497 | 0.9584 | 0.9888 | 1.0000 |
| 14 | 0.0301 | 0.0740 | 0.1567 | 0.2976 | 0.6044 | 0.8533 | 0.9619 | 0.9900 | 1.0000 |
| 15 | 0.0289 | 0.0753 | 0.1565 | 0.2942 | 0.6165 | 0.8602 | 0.9637 | 0.9902 | 1.0000 |
| 16 | 0.0309 | 0.0793 | 0.1599 | 0.2998 | 0.6103 | 0.8570 | 0.9601 | 0.9883 | 1.0000 |
| 17 | 0.0273 | 0.0727 | 0.1507 | 0.2901 | 0.6058 | 0.8535 | 0.9608 | 0.9911 | 1.0000 |
| 18 | 0.0282 | 0.0700 | 0.1433 | 0.2820 | 0.6076 | 0.8638 | 0.9643 | 0.9917 | 1.0000 |
| 19 | 0.0238 | 0.0627 | 0.1433 | 0.2909 | 0.6187 | 0.8775 | 0.9697 | 0.9907 | 1.0000 |
| 20 | 0.0220 | 0.0599 | 0.1355 | 0.2805 | 0.6294 | 0.8818 | 0.9697 | 0.9900 | 1.0000 |
| 21 | 0.0230 | 0.0611 | 0.1339 | 0.2761 | 0.6399 | 0.8894 | 0.9671 | 0.9910 | 1.0000 |
| 22 | 0.0205 | 0.0532 | 0.1156 | 0.2542 | 0.6598 | 0.9031 | 0.9754 | 0.9931 | 1.0000 |
| 23 | 0.0186 | 0.0489 | 0.1103 | 0.2504 | 0.6769 | 0.9189 | 0.9789 | 0.9944 | 1.0000 |
| 24 | 0.0173 | 0.0460 | 0.1055 | 0.2577 | 0.6755 | 0.9232 | 0.9787 | 0.9935 | 1.0000 |
| 25 | 0.0138 | 0.0475 | 0.1057 | 0.2485 | 0.6854 | 0.9296 | 0.9789 | 0.9937 | 1.0000 |
| 26 | 0.0183 | 0.0417 | 0.0932 | 0.2388 | 0.6937 | 0.9373 | 0.9828 | 0.9960 | 1.0000 |
| 27 | 0.0134 | 0.0344 | 0.0875 | 0.2422 | 0.7063 | 0.9426 | 0.9853 | 0.9963 | 1.0000 |
| 28 | 0.0102 | 0.0291 | 0.0765 | 0.2359 | 0.7252 | 0.9552 | 0.9885 | 0.9965 | 1.0000 |
| 29 | 0.0128 | 0.0320 | 0.0801 | 0.2289 | 0.7323 | 0.9564 | 0.9889 | 0.9969 | 1.0000 |
| 30 | 0.0105 | 0.0258 | 0.0647 | 0.2142 | 0.7307 | 0.9546 | 0.9884 | 0.9964 | 1.0000 |
| 31 | 0.0091 | 0.0211 | 0.0563 | 0.2095 | 0.7451 | 0.9642 | 0.9912 | 0.9981 | 1.0000 |

TRANSITION-PROBABILITY MATRIX (CONTINUED)
LA COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0079 | 0.0191 | 0.0531 | 0.2034 | 0.7722 | 0.9717 | 0.9926 | 0.9973 | 1.0000 |
| 33 | 0.0080 | 0.0198 | 0.0501 | 0.1938 | 0.7840 | 0.9706 | 0.9904 | 0.9976 | 1.0000 |
| 34 | 0.0079 | 0.0181 | 0.0435 | 0.1763 | 0.7919 | 0.9704 | 0.9915 | 0.9981 | 1.0000 |
| 35 | 0.0095 | 0.0178 | 0.0420 | 0.1858 | 0.7887 | 0.9748 | 0.9943 | 0.9987 | 1.0000 |
| 36 | 0.0085 | 0.0174 | 0.0452 | 0.1857 | 0.7969 | 0.9765 | 0.9940 | 0.9992 | 1.0000 |
| 37 | 0.0083 | 0.0172 | 0.0445 | 0.1743 | 0.8099 | 0.9786 | 0.9952 | 0.9992 | 1.0000 |
| 38 | 0.0119 | 0.0186 | 0.0357 | 0.1643 | 0.8149 | 0.9769 | 0.9943 | 0.9993 | 1.0000 |
| 39 | 0.0105 | 0.0177 | 0.0351 | 0.1738 | 0.8015 | 0.9750 | 0.9948 | 0.9996 | 1.0000 |
| 40 | 0.0093 | 0.0164 | 0.0408 | 0.1820 | 0.8128 | 0.9815 | 0.9968 | 0.9999 | 1.0000 |
| 41 | 0.0092 | 0.0168 | 0.0418 | 0.1735 | 0.8311 | 0.9821 | 0.9961 | 1.0000 | 1.0000 |
| 42 | 0.0103 | 0.0216 | 0.0434 | 0.1622 | 0.8222 | 0.9785 | 0.9946 | 1.0000 | 1.0000 |
| 43 | 0.0091 | 0.0173 | 0.0349 | 0.1535 | 0.8109 | 0.9770 | 0.9949 | 1.0000 | 1.0000 |
| 44 | 0.0129 | 0.0214 | 0.0435 | 0.1817 | 0.8058 | 0.9804 | 0.9944 | 1.0000 | 1.0000 |
| 45 | 0.0102 | 0.0173 | 0.0437 | 0.1710 | 0.8209 | 0.9773 | 0.9942 | 1.0000 | 1.0000 |
| 46 | 0.0099 | 0.0193 | 0.0433 | 0.1382 | 0.8343 | 0.9804 | 0.9967 | 1.0000 | 1.0000 |
| 47 | 0.0182 | 0.0234 | 0.0369 | 0.1416 | 0.8190 | 0.9785 | 0.9969 | 1.0000 | 1.0000 |
| 48 | 0.0150 | 0.0227 | 0.0433 | 0.1413 | 0.8172 | 0.9721 | 0.9958 | 1.0000 | 1.0000 |
| 49 | 0.0085 | 0.0131 | 0.0351 | 0.1352 | 0.8418 | 0.9844 | 0.9979 | 1.0000 | 1.0000 |
| 50 | 0.0112 | 0.0161 | 0.0285 | 0.1207 | 0.8593 | 0.9839 | 0.9980 | 1.0000 | 1.0000 |
| 51 | 0.0119 | 0.0162 | 0.0266 | 0.1164 | 0.8494 | 0.9853 | 0.9975 | 1.0000 | 1.0000 |
| 52 | 0.0089 | 0.0118 | 0.0189 | 0.1039 | 0.8483 | 0.9818 | 0.9982 | 1.0000 | 1.0000 |
| 53 | 0.0047 | 0.0074 | 0.0174 | 0.0925 | 0.8855 | 0.9888 | 0.9988 | 1.0000 | 1.0000 |
| 54 | 0.0058 | 0.0085 | 0.0176 | 0.0817 | 0.8953 | 0.9885 | 0.9997 | 1.0000 | 1.0000 |
| 55 | 0.0059 | 0.0082 | 0.0126 | 0.0688 | 0.9086 | 0.9930 | 0.9991 | 1.0000 | 1.0000 |
| 56 | 0.0083 | 0.0105 | 0.0175 | 0.0714 | 0.9257 | 0.9924 | 0.9997 | 1.0000 | 1.0000 |
| 57 | 0.0091 | 0.0114 | 0.0217 | 0.0861 | 0.9111 | 0.9926 | 0.9994 | 1.0000 | 1.0000 |
| 58 | 0.0083 | 0.0114 | 0.0280 | 0.1121 | 0.9117 | 0.9917 | 1.0000 | 1.0000 | 1.0000 |
| 59 | 0.0112 | 0.0186 | 0.0310 | 0.0991 | 0.9046 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 60 | 0.0153 | 0.0178 | 0.0195 | 0.0433 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

LA COMBINED GAS & DSL - NONFREEWAY

THE STATISTICS FOR CYCLE 2106204593 ARE AS FOLLOWS:

KOLMOGOROV-SMIRNOV DIFFERENCES:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX: | 0.0512 | 0.353 |
| CRUISE: | 0.0580 | 0.542 |
| ACCEL: | 0.0850 | 0.700 |
| DECEL: | 0.1119 | 0.344 |
| SPEED: | 0.0378 | 0.220 |
| DEL SPD: | 0.0456 | 0.498 |

SUMMARY PERCENTAGE MEASURES:

| | INPUT | CYCLE |
|---|---|---|
| IDLE: | 30.09 | 28.79 |
| CRUISE: | 32.02 | 29.09 * |
| ACCEL: | 21.24 | 20.91 |
| DECEL: | 16.65 | 21.21 |

| | |
|---|---|
| AVERAGE SPEED FOR INPUT MATRIX: | 15.10 MPH |
| AVERAGE SPEED FOR CYCLE: | 14.55 MPH |
| CYCLE DISTANCE: | 1.15 MILES |
| CYCLE DURATION: | 4.75 MINUTES |

* THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE.

DRIVING SCHEDULE FOR CYCLE 2106204593

LA GAS + DSL NON-FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | |
| 1 | 0 | 51 | 0 | 101 | 14 | 151 | 16 |
| 2 | 0 | 52 | 0 | 102 | 17 | 152 | 15 |
| 3 | 0 | 53 | 0 | 103 | 16 | 153 | 16 |
| 4 | 0 | 54 | 1 | 104 | 16 | 154 | 16 |
| 5 | 0 | 55 | 0 | 105 | 12 | 155 | 16 |
| 6 | 0 | 56 | 0 | 106 | 13 | 156 | 16 |
| 7 | 0 | 57 | 2 | 107 | 13 | 157 | 17 |
| 8 | 0 | 58 | 2 | 108 | 13 | 158 | 18 |
| 9 | 0 | 59 | 3 | 109 | 13 | 159 | 19 |
| 10 | 0 | 60 | 6 | 110 | 16 | 160 | 19 |
| 11 | 0 | 61 | 4 | 111 | 12 | 161 | 20 |
| 12 | 0 | 62 | 4 | 112 | 12 | 162 | 21 |
| 13 | 0 | 63 | 4 | 113 | 11 | 163 | 21 |
| 14 | 0 | 64 | 3 | 114 | 11 | 164 | 21 |
| 15 | 0 | 65 | 1 | 115 | 11 | 165 | 21 |
| 16 | 0 | 66 | 1 | 116 | 11 | 166 | 20 |
| 17 | 0 | 67 | 0 | 117 | 12 | 167 | 20 |
| 18 | 0 | 68 | 0 | 118 | 13 | 168 | 19 |
| 19 | 0 | 69 | 0 | 119 | 11 | 169 | 19 |
| 20 | 0 | 70 | 0 | 120 | 8 | 170 | 19 |
| 21 | 0 | 71 | 0 | 121 | 6 | 171 | 18 |
| 22 | 0 | 72 | 0 | 122 | 4 | 172 | 19 |
| 23 | 0 | 73 | 0 | 123 | 5 | 173 | 19 |
| 24 | 0 | 74 | 0 | 124 | 7 | 174 | 20 |
| 25 | 0 | 75 | 0 | 125 | 8 | 175 | 20 |
| 26 | 0 | 76 | 1 | 126 | 8 | 176 | 20 |
| 27 | 0 | 77 | 2 | 127 | 7 | 177 | 20 |
| 28 | 0 | 78 | 2 | 128 | 7 | 178 | 20 |
| 29 | 0 | 79 | 5 | 129 | 6 | 179 | 20 |
| 30 | 0 | 80 | 5 | 130 | 9 | 180 | 20 |
| 31 | 0 | 81 | 6 | 131 | 11 | 181 | 19 |
| 32 | 0 | 82 | 7 | 132 | 11 | 182 | 21 |
| 33 | 0 | 83 | 8 | 133 | 10 | 183 | 22 |
| 34 | 0 | 84 | 6 | 134 | 11 | 184 | 21 |
| 35 | 0 | 85 | 7 | 135 | 10 | 185 | 20 |
| 36 | 0 | 86 | 7 | 136 | 11 | 186 | 22 |
| 37 | 0 | 87 | 7 | 137 | 11 | 187 | 22 |
| 38 | 0 | 88 | 7 | 138 | 13 | 188 | 22 |
| 39 | 0 | 89 | 7 | 139 | 15 | 189 | 23 |
| 40 | 0 | 90 | 7 | 140 | 14 | 190 | 23 |
| 41 | 0 | 91 | 7 | 141 | 16 | 191 | 24 |
| 42 | 0 | 92 | 8 | 142 | 17 | 192 | 25 |
| 43 | 0 | 93 | 8 | 143 | 17 | 193 | 29 |
| 44 | 0 | 94 | 8 | 144 | 17 | 194 | 29 |
| 45 | 0 | 95 | 7 | 145 | 17 | 195 | 29 |
| 46 | 0 | 96 | 11 | 146 | 17 | 196 | 29 |
| 47 | 0 | 97 | 12 | 147 | 15 | 197 | 31 |
| 48 | 0 | 98 | 16 | 148 | 16 | 198 | 31 |
| 49 | 0 | 99 | 12 | 149 | 14 | 199 | 30 |
| 50 | 0 | 100 | 11 | 150 | 14 | 200 | 30 |

DRIVING SCHEDULE FOR CYCLE 2106204593

LA GAS + DSL NON-FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 30 | 234 | 32 | 267 | 40 | 300 | 0 |
| 202 | 30 | 235 | 33 | 268 | 40 | 301 | 0 |
| 203 | 31 | 236 | 33 | 269 | 39 | 302 | 0 |
| 204 | 31 | 237 | 33 | 270 | 37 | 303 | 0 |
| 205 | 32 | 238 | 33 | 271 | 37 | 304 | 0 |
| 206 | 31 | 239 | 34 | 272 | 36 | 305 | 0 |
| 207 | 31 | 240 | 34 | 273 | 35 | 306 | 0 |
| 208 | 32 | 241 | 35 | 274 | 34 | 307 | 0 |
| 209 | 33 | 242 | 35 | 275 | 33 | 308 | 0 |
| 210 | 33 | 243 | 35 | 276 | 32 | 309 | 0 |
| 211 | 33 | 244 | 35 | 277 | 28 | 310 | 0 |
| 212 | 34 | 245 | 35 | 278 | 26 | 311 | 0 |
| 213 | 34 | 246 | 35 | 279 | 22 | 312 | 0 |
| 214 | 35 | 247 | 35 | 280 | 20 | 313 | 0 |
| 215 | 36 | 248 | 35 | 281 | 19 | 314 | 0 |
| 216 | 36 | 249 | 36 | 282 | 18 | 315 | 0 |
| 217 | 36 | 250 | 38 | 283 | 17 | 316 | 0 |
| 218 | 34 | 251 | 38 | 284 | 16 | 317 | 0 |
| 219 | 33 | 252 | 38 | 285 | 14 | 318 | 0 |
| 220 | 32 | 253 | 37 | 286 | 13 | 319 | 0 |
| 221 | 32 | 254 | 40 | 287 | 12 | 320 | 0 |
| 222 | 32 | 255 | 39 | 288 | 11 | 321 | 0 |
| 223 | 32 | 256 | 39 | 289 | 10 | 322 | 0 |
| 224 | 32 | 257 | 39 | 290 | 8 | 323 | 0 |
| 225 | 32 | 258 | 38 | 291 | 7 | 324 | 0 |
| 226 | 32 | 259 | 39 | 292 | 6 | 325 | 0 |
| 227 | 33 | 260 | 39 | 293 | 4 | 326 | 0 |
| 228 | 33 | 261 | 40 | 294 | 3 | 327 | 0 |
| 229 | 34 | 262 | 41 | 295 | 2 | 328 | 0 |
| 230 | 34 | 263 | 42 | 296 | 1 | 329 | 0 |
| 231 | 33 | 264 | 42 | 297 | 0 | 330 | 0 |
| 232 | 32 | 265 | 42 | 298 | 0 | | |
| 233 | 32 | 266 | 40 | 299 | 0 | | |

DRIVING SCHEDULE FOR
CYCLE 2106204593

LA GAS + DSL NON-FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | | | | | | |
| 1 | 0.0 | 51 | 3.08 | 101 | 11.90 | 151 | 20.00 |
| 2 | 0.0 | 52 | 5.63 | 102 | 12.89 | 152 | 20.00 |
| 3 | 0.0 | 53 | 4.00 | 103 | 10.36 | 153 | 20.00 |
| 4 | 0.0 | 54 | 4.00 | 104 | 7.26 | 154 | 20.00 |
| 5 | 0.0 | 55 | 3.34 | 105 | 4.94 | 155 | 20.00 |
| 6 | 0.0 | 56 | 1.37 | 106 | 4.69 | 156 | 19.44 |
| 7 | 0.0 | 57 | 1.00 | 107 | 6.69 | 157 | 20.43 |
| 8 | 0.0 | 58 | 0.0 | 108 | 8.00 | 158 | 21.87 |
| 9 | 0.0 | 59 | 0.0 | 109 | 7.84 | 159 | 20.97 |
| 10 | 0.0 | 60 | 0.0 | 110 | 7.00 | 160 | 20.37 |
| 11 | 0.0 | 61 | 0.0 | 111 | 6.53 | 161 | 22.00 |
| 12 | 0.0 | 62 | 0.0 | 112 | 7.89 | 162 | 22.00 |
| 13 | 0.0 | 63 | 0.0 | 113 | 10.57 | 163 | 22.66 |
| 14 | 0.0 | 64 | 0.0 | 114 | 11.00 | 164 | 23.00 |
| 15 | 0.0 | 65 | 0.23 | 115 | 10.10 | 165 | 23.97 |
| 16 | 0.0 | 66 | 1.39 | 116 | 10.74 | 166 | 25.52 |
| 17 | 0.0 | 67 | 2.00 | 117 | 10.42 | 167 | 29.00 |
| 18 | 0.0 | 68 | 4.11 | 118 | 11.00 | 168 | 29.00 |
| 19 | 0.0 | 69 | 5.00 | 119 | 12.46 | 169 | 29.00 |
| 20 | 0.0 | 70 | 6.02 | 120 | 14.78 | 170 | 30.52 |
| 21 | 0.0 | 71 | 7.18 | 121 | 14.09 | 171 | 31.00 |
| 22 | 0.0 | 72 | 7.33 | 122 | 16.20 | 172 | 30.00 |
| 23 | 0.0 | 73 | 6.49 | 123 | 17.00 | 173 | 30.00 |
| 24 | 0.0 | 74 | 7.00 | 124 | 17.00 | 174 | 30.00 |
| 25 | 0.0 | 75 | 7.00 | 125 | 17.00 | 175 | 30.55 |
| 26 | 0.0 | 76 | 7.00 | 126 | 17.00 | 176 | 31.00 |
| 27 | 0.0 | 77 | 7.00 | 127 | 15.02 | 177 | 31.86 |
| 28 | 0.0 | 78 | 7.00 | 128 | 15.70 | 178 | 31.00 |
| 29 | 0.0 | 79 | 7.44 | 129 | 14.00 | 179 | 31.18 |
| 30 | 0.0 | 80 | 8.00 | 130 | 14.93 | 180 | 32.33 |
| 31 | 0.0 | 81 | 8.00 | 131 | 15.38 | 181 | 33.00 |
| 32 | 0.0 | 82 | 7.09 | 132 | 15.78 | 182 | 33.00 |
| 33 | 0.0 | 83 | 11.06 | 133 | 16.00 | 183 | 33.81 |
| 34 | 0.0 | 84 | 12.89 | 134 | 16.00 | 184 | 34.00 |
| 35 | 0.0 | 85 | 14.48 | 135 | 16.25 | 185 | 35.12 |
| 36 | 0.0 | 86 | 11.46 | 136 | 17.41 | 186 | 36.00 |
| 37 | 0.0 | 87 | 13.08 | 137 | 18.56 | 187 | 36.00 |
| 38 | 0.0 | 88 | 16.56 | 138 | 19.00 | 188 | 34.81 |
| 39 | 0.0 | 89 | 16.00 | 139 | 19.88 | 189 | 33.25 |
| 40 | 0.0 | 90 | 15.33 | 140 | 21.00 | 190 | 32.09 |
| 41 | 0.0 | 91 | 12.32 | 141 | 21.00 | 191 | 32.00 |
| 42 | 0.0 | 92 | 13.00 | 142 | 21.00 | 192 | 32.00 |
| 43 | 0.0 | 93 | 13.00 | 143 | 20.49 | 193 | 32.00 |
| 44 | 0.0 | 94 | 13.00 | 144 | 20.00 | 194 | 32.00 |
| 45 | 0.0 | 95 | 15.86 | 145 | 19.18 | 195 | 32.00 |
| 46 | 0.24 | 96 | 12.00 | 146 | 19.00 | 196 | 32.85 |
| 47 | 0.60 | 97 | 11.73 | 147 | 18.86 | 197 | 33.01 |
| 48 | 0.0 | 98 | 11.00 | 148 | 18.30 | 198 | 34.00 |
| 49 | 1.43 | 99 | 11.00 | 149 | 19.00 | 199 | 33.68 |
| 50 | 2.00 | 100 | 11.00 | 150 | 19.61 | 200 | 32.52 |

DRIVING SCHEDULE FOR
CYCLE 2106204593

LA GAS + DSL NON-FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 32.00 | 223 | 38.10 | 245 | 16.44 | 267 | 0.0 |
| 202 | 32.00 | 224 | 39.00 | 246 | 14.56 | 268 | 0.0 |
| 203 | 32.95 | 225 | 39.42 | 247 | 13.12 | 269 | 0.0 |
| 204 | 33.00 | 226 | 40.57 | 248 | 11.96 | 270 | 0.0 |
| 205 | 33.00 | 227 | 41.73 | 249 | 10.81 | 271 | 0.0 |
| 206 | 33.43 | 228 | 42.00 | 250 | 9.30 | 272 | 0.0 |
| 207 | 34.00 | 229 | 41.91 | 251 | 7.49 | 273 | 0.0 |
| 208 | 34.74 | 230 | 40.00 | 252 | 6.33 | 274 | 0.0 |
| 209 | 35.00 | 231 | 40.00 | 253 | 4.35 | 275 | 0.0 |
| 210 | 35.00 | 232 | 39.48 | 254 | 3.02 | 276 | 0.0 |
| 211 | 35.00 | 233 | 37.65 | 255 | 1.86 | 277 | 0.0 |
| 212 | 35.00 | 234 | 37.00 | 256 | 0.70 | 278 | 0.0 |
| 213 | 35.00 | 235 | 36.01 | 257 | 0.0 | 279 | 0.0 |
| 214 | 35.00 | 236 | 34.85 | 258 | 0.0 | 280 | 0.0 |
| 215 | 35.84 | 237 | 33.69 | 259 | 0.0 | 281 | 0.0 |
| 216 | 38.00 | 238 | 32.54 | 260 | 0.0 | 282 | 0.0 |
| 217 | 38.00 | 239 | 29.52 | 261 | 0.0 | 283 | 0.0 |
| 218 | 37.69 | 240 | 26.44 | 262 | 0.0 | 284 | 0.0 |
| 219 | 38.42 | 241 | 22.26 | 263 | 0.0 | 285 | 0.0 |
| 220 | 39.37 | 242 | 19.91 | 264 | 0.0 | | |
| 221 | 39.00 | 243 | 18.75 | 265 | 0.0 | | |
| 222 | 39.00 | 244 | 17.59 | 266 | 0.0 | | |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX
NY COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 55574 | 1058 | 318 | 217 | 63 | 57230 |
| 1 | 0 | 0 | 0 | 859 | 1355 | 843 | 258 | 90 | 25 | 3430 |
| 2 | 0 | 0 | 493 | 750 | 1302 | 673 | 306 | 64 | 24 | 3612 |
| 3 | 0 | 224 | 288 | 772 | 1797 | 729 | 250 | 74 | 39 | 4173 |
| 4 | 69 | 65 | 284 | 714 | 1925 | 720 | 249 | 77 | 44 | 4147 |
| 5 | 23 | 65 | 267 | 760 | 1875 | 786 | 266 | 69 | 38 | 4149 |
| 6 | 27 | 62 | 223 | 803 | 1765 | 785 | 254 | 62 | 50 | 4031 |
| 7 | 24 | 64 | 248 | 761 | 1682 | 777 | 184 | 49 | 42 | 3831 |
| 8 | 30 | 97 | 228 | 778 | 1721 | 735 | 184 | 60 | 35 | 3868 |
| 9 | 44 | 84 | 155 | 697 | 1802 | 765 | 251 | 92 | 38 | 3928 |
| 10 | 57 | 50 | 185 | 731 | 1884 | 855 | 223 | 66 | 35 | 4086 |
| 11 | 47 | 69 | 226 | 772 | 1805 | 845 | 195 | 46 | 31 | 4036 |
| 12 | 40 | 92 | 240 | 719 | 1775 | 804 | 203 | 74 | 40 | 3987 |
| 13 | 61 | 96 | 220 | 602 | 1857 | 726 | 219 | 117 | 31 | 3929 |
| 14 | 58 | 75 | 221 | 601 | 1909 | 744 | 199 | 71 | 32 | 3910 |
| 15 | 45 | 81 | 241 | 697 | 1785 | 777 | 187 | 44 | 38 | 3895 |
| 16 | 55 | 68 | 238 | 669 | 1810 | 710 | 167 | 62 | 55 | 3834 |
| 17 | 55 | 92 | 193 | 635 | 1688 | 703 | 215 | 79 | 59 | 3719 |
| 18 | 65 | 72 | 179 | 625 | 1643 | 725 | 232 | 97 | 61 | 3699 |
| 19 | 43 | 67 | 250 | 646 | 1379 | 762 | 224 | 86 | 55 | 3512 |
| 20 | 57 | 83 | 261 | 663 | 1356 | 723 | 221 | 83 | 68 | 3515 |
| 21 | 53 | 90 | 228 | 631 | 1503 | 786 | 264 | 106 | 70 | 3731 |
| 22 | 73 | 111 | 239 | 653 | 1489 | 754 | 235 | 100 | 84 | 3738 |
| 23 | 76 | 97 | 256 | 618 | 1568 | 838 | 282 | 127 | 50 | 3912 |
| 24 | 73 | 92 | 251 | 766 | 1628 | 967 | 314 | 108 | 57 | 4256 |
| 25 | 93 | 96 | 286 | 794 | 1936 | 912 | 274 | 115 | 38 | 4544 |
| 26 | 115 | 100 | 293 | 777 | 2434 | 970 | 331 | 115 | 44 | 5179 |
| 27 | 117 | 107 | 248 | 834 | 2282 | 1067 | 356 | 138 | 43 | 5192 |
| 28 | 108 | 124 | 283 | 978 | 2307 | 1129 | 325 | 165 | 34 | 5453 |
| 29 | 108 | 89 | 335 | 990 | 2479 | 1187 | 302 | 155 | 21 | 5666 |
| 30 | 101 | 99 | 359 | 963 | 2708 | 1126 | 326 | 150 | 18 | 5850 |
| 31 | 108 | 137 | 301 | 1010 | 2889 | 1353 | 418 | 123 | 12 | 6351 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
NY COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 96 | 120 | 340 | 1196 | 3465 | 1422 | 369 | 97 | 10 | 7115 |
| 33 | 121 | 118 | 401 | 1287 | 3783 | 1399 | 324 | 91 | 4 | 7528 |
| 34 | 102 | 114 | 308 | 1172 | 3486 | 1367 | 318 | 84 | 7 | 6958 |
| 35 | 109 | 101 | 303 | 1120 | 3498 | 1438 | 385 | 96 | 1 | 7051 |
| 36 | 102 | 95 | 302 | 1281 | 3710 | 1401 | 358 | 76 | 8 | 7333 |
| 37 | 101 | 83 | 355 | 1189 | 3804 | 1346 | 350 | 51 | 2 | 7281 |
| 38 | 87 | 90 | 350 | 1196 | 4089 | 1292 | 282 | 57 | 0 | 7443 |
| 39 | 102 | 88 | 266 | 1155 | 3956 | 1340 | 317 | 43 | 0 | 7267 |
| 40 | 92 | 81 | 258 | 1190 | 4194 | 1334 | 330 | 50 | 1 | 7530 |
| 41 | 98 | 71 | 266 | 1109 | 3749 | 1306 | 345 | 38 | 1 | 6983 |
| 42 | 81 | 76 | 285 | 1115 | 3677 | 1249 | 309 | 21 | 0 | 6813 |
| 43 | 73 | 91 | 291 | 1126 | 3888 | 1190 | 247 | 9 | 0 | 6915 |
| 44 | 66 | 68 | 252 | 1023 | 3978 | 1377 | 312 | 12 | 0 | 7088 |
| 45 | 46 | 59 | 248 | 1161 | 3964 | 1598 | 415 | 14 | 0 | 7505 |
| 46 | 28 | 45 | 312 | 1305 | 3876 | 1436 | 303 | 11 | 0 | 7316 |
| 47 | 23 | 87 | 375 | 1297 | 3599 | 1336 | 209 | 15 | 0 | 6941 |
| 48 | 20 | 69 | 237 | 1093 | 3667 | 1535 | 217 | 10 | 0 | 6848 |
| 49 | 17 | 43 | 247 | 1149 | 3580 | 1414 | 254 | 17 | 0 | 6721 |
| 50 | 18 | 41 | 295 | 1102 | 3093 | 1224 | 178 | 17 | 0 | 5968 |
| 51 | 27 | 38 | 269 | 1012 | 2908 | 941 | 115 | 10 | 0 | 5320 |
| 52 | 23 | 36 | 171 | 793 | 2612 | 879 | 85 | 9 | 0 | 4608 |
| 53 | 22 | 31 | 120 | 658 | 2303 | 708 | 86 | 7 | 0 | 3935 |
| 54 | 14 | 34 | 129 | 566 | 1683 | 505 | 58 | 5 | 0 | 2994 |
| 55 | 13 | 27 | 112 | 422 | 1430 | 472 | 63 | 3 | 0 | 2542 |
| 56 | 14 | 34 | 74 | 370 | 1412 | 407 | 46 | 2 | 0 | 2359 |
| 57 | 15 | 28 | 69 | 341 | 1206 | 366 | 56 | 0 | 0 | 2081 |
| 58 | 17 | 22 | 55 | 313 | 1110 | 309 | 30 | 0 | 0 | 1856 |
| 59 | 12 | 13 | 62 | 234 | 957 | 312 | 0 | 0 | 0 | 1590 |
| 60 | 10 | 25 | 62 | 272 | 796 | 0 | 0 | 0 | 0 | 1165 |
| TOTALS | 3374 | 4476 | 14533 | 50515 | 200385 | 58237 | 14593 | 3926 | 1408 | 351447 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%)
NY COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.8129 | 0.3010 | 0.0905 | 0.0617 | 0.0179 |
| 1 | 0.0 | 0.0 | 0.0 | 0.2444 | 0.3855 | 0.2399 | 0.0734 | 0.0256 | 0.0071 |
| 2 | 0.0 | 0.0 | 0.1403 | 0.2134 | 0.3705 | 0.1915 | 0.0871 | 0.0182 | 0.0068 |
| 3 | 0.0 | 0.0637 | 0.0819 | 0.2197 | 0.5113 | 0.2074 | 0.0711 | 0.0211 | 0.0111 |
| 4 | 0.0196 | 0.0185 | 0.0808 | 0.2032 | 0.5477 | 0.2049 | 0.0708 | 0.0219 | 0.0125 |
| 5 | 0.0065 | 0.0185 | 0.0760 | 0.2162 | 0.5335 | 0.2236 | 0.0757 | 0.0196 | 0.0108 |
| 6 | 0.0077 | 0.0176 | 0.0635 | 0.2285 | 0.5022 | 0.2234 | 0.0723 | 0.0176 | 0.0142 |
| 7 | 0.0068 | 0.0182 | 0.0706 | 0.2165 | 0.4786 | 0.2211 | 0.0524 | 0.0139 | 0.0120 |
| 8 | 0.0085 | 0.0276 | 0.0649 | 0.2214 | 0.4897 | 0.2091 | 0.0524 | 0.0171 | 0.0100 |
| 9 | 0.0125 | 0.0239 | 0.0441 | 0.1983 | 0.5127 | 0.2177 | 0.0714 | 0.0262 | 0.0108 |
| 10 | 0.0162 | 0.0142 | 0.0526 | 0.2080 | 0.5361 | 0.2433 | 0.0635 | 0.0188 | 0.0100 |
| 11 | 0.0134 | 0.0196 | 0.0643 | 0.2197 | 0.5136 | 0.2404 | 0.0555 | 0.0131 | 0.0088 |
| 12 | 0.0114 | 0.0262 | 0.0683 | 0.2046 | 0.5051 | 0.2288 | 0.0578 | 0.0211 | 0.0114 |
| 13 | 0.0174 | 0.0273 | 0.0626 | 0.1713 | 0.5284 | 0.2066 | 0.0623 | 0.0333 | 0.0088 |
| 14 | 0.0165 | 0.0213 | 0.0629 | 0.1710 | 0.5432 | 0.2117 | 0.0566 | 0.0202 | 0.0091 |
| 15 | 0.0128 | 0.0230 | 0.0686 | 0.1983 | 0.5079 | 0.2211 | 0.0532 | 0.0125 | 0.0108 |
| 16 | 0.0156 | 0.0193 | 0.0677 | 0.1904 | 0.5150 | 0.2020 | 0.0475 | 0.0176 | 0.0156 |
| 17 | 0.0156 | 0.0262 | 0.0549 | 0.1807 | 0.4803 | 0.2000 | 0.0612 | 0.0225 | 0.0168 |
| 18 | 0.0185 | 0.0205 | 0.0509 | 0.1778 | 0.4675 | 0.2063 | 0.0660 | 0.0276 | 0.0174 |
| 19 | 0.0122 | 0.0191 | 0.0711 | 0.1838 | 0.3924 | 0.2168 | 0.0637 | 0.0245 | 0.0156 |
| 20 | 0.0162 | 0.0236 | 0.0743 | 0.1886 | 0.3858 | 0.2057 | 0.0629 | 0.0236 | 0.0193 |
| 21 | 0.0151 | 0.0256 | 0.0649 | 0.1795 | 0.4277 | 0.2236 | 0.0751 | 0.0302 | 0.0199 |
| 22 | 0.0208 | 0.0316 | 0.0680 | 0.1858 | 0.4237 | 0.2145 | 0.0669 | 0.0285 | 0.0239 |
| 23 | 0.0216 | 0.0276 | 0.0728 | 0.1758 | 0.4462 | 0.2384 | 0.0802 | 0.0361 | 0.0142 |
| 24 | 0.0208 | 0.0262 | 0.0714 | 0.2180 | 0.4632 | 0.2751 | 0.0893 | 0.0307 | 0.0162 |
| 25 | 0.0265 | 0.0273 | 0.0814 | 0.2259 | 0.5509 | 0.2595 | 0.0780 | 0.0327 | 0.0108 |
| 26 | 0.0327 | 0.0285 | 0.0834 | 0.2211 | 0.6926 | 0.2760 | 0.0942 | 0.0327 | 0.0125 |
| 27 | 0.0333 | 0.0304 | 0.0706 | 0.2373 | 0.6493 | 0.3036 | 0.1013 | 0.0393 | 0.0122 |
| 28 | 0.0307 | 0.0353 | 0.0805 | 0.2783 | 0.6564 | 0.3212 | 0.0925 | 0.0469 | 0.0097 |
| 29 | 0.0307 | 0.0253 | 0.0953 | 0.2817 | 0.7054 | 0.3377 | 0.0859 | 0.0441 | 0.0060 |
| 30 | 0.0287 | 0.0282 | 0.1021 | 0.2740 | 0.7705 | 0.3204 | 0.0928 | 0.0427 | 0.0051 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%) (CONTINUED)
NY COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 0.0307 | 0.0390 | 0.0856 | 0.2874 | 0.8220 | 0.3850 | 0.1189 | 0.0350 | 0.0034 |
| 32 | 0.0273 | 0.0341 | 0.0967 | 0.3403 | 0.9859 | 0.4046 | 0.1050 | 0.0276 | 0.0028 |
| 33 | 0.0344 | 0.0336 | 0.1141 | 0.3662 | 1.0764 | 0.3981 | 0.0922 | 0.0259 | 0.0011 |
| 34 | 0.0290 | 0.0324 | 0.0876 | 0.3335 | 0.9919 | 0.3890 | 0.0905 | 0.0239 | 0.0020 |
| 35 | 0.0310 | 0.0287 | 0.0862 | 0.3187 | 0.9953 | 0.4092 | 0.1095 | 0.0273 | 0.0003 |
| 36 | 0.0290 | 0.0270 | 0.0859 | 0.3645 | 1.0556 | 0.3986 | 0.1019 | 0.0216 | 0.0023 |
| 37 | 0.0287 | 0.0236 | 0.1010 | 0.3383 | 1.0824 | 0.3830 | 0.0996 | 0.0145 | 0.0006 |
| 38 | 0.0248 | 0.0256 | 0.0996 | 0.3403 | 1.1635 | 0.3676 | 0.0802 | 0.0162 | 0.0 |
| 39 | 0.0290 | 0.0250 | 0.0757 | 0.3286 | 1.1256 | 0.3813 | 0.0902 | 0.0122 | 0.0 |
| 40 | 0.0262 | 0.0230 | 0.0734 | 0.3386 | 1.1934 | 0.3796 | 0.0939 | 0.0142 | 0.0003 |
| 41 | 0.0279 | 0.0202 | 0.0757 | 0.3156 | 1.0667 | 0.3716 | 0.0982 | 0.0108 | 0.0003 |
| 42 | 0.0230 | 0.0216 | 0.0811 | 0.3173 | 1.0462 | 0.3554 | 0.0879 | 0.0060 | 0.0 |
| 43 | 0.0208 | 0.0259 | 0.0828 | 0.3204 | 1.1063 | 0.3386 | 0.0703 | 0.0026 | 0.0 |
| 44 | 0.0188 | 0.0193 | 0.0717 | 0.2911 | 1.1319 | 0.3918 | 0.0888 | 0.0034 | 0.0 |
| 45 | 0.0131 | 0.0168 | 0.0706 | 0.3303 | 1.1279 | 0.4547 | 0.1181 | 0.0040 | 0.0 |
| 46 | 0.0080 | 0.0128 | 0.0888 | 0.3713 | 1.1029 | 0.4086 | 0.0862 | 0.0031 | 0.0 |
| 47 | 0.0065 | 0.0248 | 0.1067 | 0.3690 | 1.0241 | 0.3801 | 0.0595 | 0.0043 | 0.0 |
| 48 | 0.0057 | 0.0196 | 0.0674 | 0.3110 | 1.0434 | 0.4368 | 0.0617 | 0.0028 | 0.0 |
| 49 | 0.0048 | 0.0122 | 0.0703 | 0.3269 | 1.0186 | 0.4023 | 0.0723 | 0.0048 | 0.0 |
| 50 | 0.0051 | 0.0117 | 0.0839 | 0.3136 | 0.8801 | 0.3483 | 0.0506 | 0.0048 | 0.0 |
| 51 | 0.0077 | 0.0108 | 0.0765 | 0.2880 | 0.8274 | 0.2678 | 0.0327 | 0.0028 | 0.0 |
| 52 | 0.0065 | 0.0102 | 0.0487 | 0.2256 | 0.7432 | 0.2501 | 0.0242 | 0.0026 | 0.0 |
| 53 | 0.0063 | 0.0088 | 0.0341 | 0.1872 | 0.6553 | 0.2015 | 0.0245 | 0.0020 | 0.0 |
| 54 | 0.0040 | 0.0097 | 0.0367 | 0.1610 | 0.4789 | 0.1437 | 0.0165 | 0.0014 | 0.0 |
| 55 | 0.0037 | 0.0077 | 0.0319 | 0.1201 | 0.4069 | 0.1343 | 0.0179 | 0.0009 | 0.0 |
| 56 | 0.0040 | 0.0097 | 0.0211 | 0.1053 | 0.4018 | 0.1158 | 0.0131 | 0.0006 | 0.0 |
| 57 | 0.0043 | 0.0080 | 0.0196 | 0.0970 | 0.3432 | 0.1041 | 0.0159 | 0.0 | 0.0 |
| 58 | 0.0048 | 0.0063 | 0.0156 | 0.0891 | 0.3158 | 0.0879 | 0.0085 | 0.0 | 0.0 |
| 59 | 0.0034 | 0.0037 | 0.0176 | 0.0666 | 0.2723 | 0.0888 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0028 | 0.0071 | 0.0176 | 0.0774 | 0.2265 | 0.0 | 0.0 | 0.0 | 0.0 |

TRANSITION-PROBABILITY MATRIX
NY COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9711 | 0.9896 | 0.9951 | 0.9989 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.2504 | 0.6455 | 0.8913 | 0.9665 | 0.9927 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.1365 | 0.3441 | 0.7046 | 0.8909 | 0.9756 | 0.9934 | 1.0000 |
| 3 | 0.0 | 0.0537 | 0.1227 | 0.3077 | 0.7383 | 0.9130 | 0.9729 | 0.9907 | 1.0000 |
| 4 | 0.0166 | 0.0323 | 0.1008 | 0.2730 | 0.7372 | 0.9108 | 0.9708 | 0.9894 | 1.0000 |
| 5 | 0.0055 | 0.0212 | 0.0856 | 0.2687 | 0.7207 | 0.9101 | 0.9742 | 0.9908 | 1.0000 |
| 6 | 0.0067 | 0.0221 | 0.0774 | 0.2766 | 0.7145 | 0.9092 | 0.9722 | 0.9876 | 1.0000 |
| 7 | 0.0063 | 0.0230 | 0.0877 | 0.2863 | 0.7254 | 0.9282 | 0.9762 | 0.9890 | 1.0000 |
| 8 | 0.0078 | 0.0328 | 0.0918 | 0.2929 | 0.7378 | 0.9279 | 0.9754 | 0.9910 | 1.0000 |
| 9 | 0.0112 | 0.0326 | 0.0720 | 0.2495 | 0.7082 | 0.9030 | 0.9669 | 0.9903 | 1.0000 |
| 10 | 0.0140 | 0.0262 | 0.0715 | 0.2504 | 0.7115 | 0.9207 | 0.9753 | 0.9914 | 1.0000 |
| 11 | 0.0116 | 0.0287 | 0.0847 | 0.2760 | 0.7232 | 0.9326 | 0.9809 | 0.9923 | 1.0000 |
| 12 | 0.0100 | 0.0331 | 0.0933 | 0.2736 | 0.7188 | 0.9205 | 0.9714 | 0.9900 | 1.0000 |
| 13 | 0.0155 | 0.0400 | 0.0960 | 0.2492 | 0.7218 | 0.9066 | 0.9623 | 0.9921 | 1.0000 |
| 14 | 0.0148 | 0.0340 | 0.0905 | 0.2442 | 0.7325 | 0.9228 | 0.9737 | 0.9918 | 1.0000 |
| 15 | 0.0116 | 0.0323 | 0.0942 | 0.2732 | 0.7315 | 0.9309 | 0.9789 | 0.9902 | 1.0000 |
| 16 | 0.0143 | 0.0321 | 0.0942 | 0.2686 | 0.7407 | 0.9259 | 0.9695 | 0.9857 | 1.0000 |
| 17 | 0.0148 | 0.0395 | 0.0914 | 0.2622 | 0.7161 | 0.9051 | 0.9629 | 0.9841 | 1.0000 |
| 18 | 0.0176 | 0.0370 | 0.0854 | 0.2544 | 0.6986 | 0.8946 | 0.9573 | 0.9835 | 1.0000 |
| 19 | 0.0122 | 0.0313 | 0.1025 | 0.2864 | 0.6791 | 0.8961 | 0.9599 | 0.9843 | 1.0000 |
| 20 | 0.0162 | 0.0398 | 0.1141 | 0.3027 | 0.6885 | 0.8942 | 0.9570 | 0.9807 | 1.0000 |
| 21 | 0.0142 | 0.0383 | 0.0954 | 0.2686 | 0.6714 | 0.8821 | 0.9528 | 0.9812 | 1.0000 |
| 22 | 0.0195 | 0.0492 | 0.1132 | 0.2879 | 0.6862 | 0.8879 | 0.9508 | 0.9775 | 1.0000 |
| 23 | 0.0194 | 0.0442 | 0.1057 | 0.2676 | 0.6685 | 0.8827 | 0.9548 | 0.9872 | 1.0000 |
| 24 | 0.0172 | 0.0388 | 0.0977 | 0.2777 | 0.6602 | 0.8875 | 0.9612 | 0.9866 | 1.0000 |
| 25 | 0.0205 | 0.0416 | 0.1045 | 0.2793 | 0.7053 | 0.9060 | 0.9663 | 0.9916 | 1.0000 |
| 26 | 0.0222 | 0.0415 | 0.0981 | 0.2481 | 0.7181 | 0.9054 | 0.9693 | 0.9915 | 1.0000 |
| 27 | 0.0225 | 0.0431 | 0.0909 | 0.2515 | 0.6911 | 0.8966 | 0.9651 | 0.9917 | 1.0000 |
| 28 | 0.0198 | 0.0425 | 0.0944 | 0.2738 | 0.6969 | 0.9039 | 0.9635 | 0.9938 | 1.0000 |
| 29 | 0.0191 | 0.0348 | 0.0939 | 0.2686 | 0.7061 | 0.9156 | 0.9689 | 0.9963 | 1.0000 |
| 30 | 0.0173 | 0.0342 | 0.0956 | 0.2602 | 0.7231 | 0.9156 | 0.9713 | 0.9969 | 1.0000 |
| 31 | 0.0170 | 0.0386 | 0.0860 | 0.2450 | 0.6999 | 0.9129 | 0.9787 | 0.9981 | 1.0000 |

TRANSITION-PROBABILITY MATRIX (CONTINUED)
NY COMBINED GAS & DSL - FREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0135 | 0.0304 | 0.0781 | 0.2462 | 0.7332 | 0.9331 | 0.9850 | 0.9986 | 1.0000 |
| 33 | 0.0161 | 0.0317 | 0.0850 | 0.2560 | 0.7585 | 0.9443 | 0.9874 | 0.9995 | 1.0000 |
| 34 | 0.0147 | 0.0310 | 0.0753 | 0.2437 | 0.7448 | 0.9412 | 0.9869 | 0.9990 | 1.0000 |
| 35 | 0.0155 | 0.0298 | 0.0728 | 0.2316 | 0.7277 | 0.9316 | 0.9862 | 0.9999 | 1.0000 |
| 36 | 0.0139 | 0.0269 | 0.0680 | 0.2427 | 0.7487 | 0.9397 | 0.9885 | 0.9989 | 1.0000 |
| 37 | 0.0139 | 0.0253 | 0.0740 | 0.2373 | 0.7598 | 0.9447 | 0.9927 | 0.9997 | 1.0000 |
| 38 | 0.0117 | 0.0238 | 0.0708 | 0.2315 | 0.7809 | 0.9545 | 0.9923 | 1.0000 | 1.0000 |
| 39 | 0.0140 | 0.0261 | 0.0627 | 0.2217 | 0.7661 | 0.9505 | 0.9941 | 1.0000 | 1.0000 |
| 40 | 0.0122 | 0.0230 | 0.0572 | 0.2153 | 0.7722 | 0.9494 | 0.9932 | 0.9999 | 1.0000 |
| 41 | 0.0140 | 0.0242 | 0.0623 | 0.2211 | 0.7580 | 0.9450 | 0.9944 | 0.9999 | 1.0000 |
| 42 | 0.0119 | 0.0230 | 0.0649 | 0.2285 | 0.7682 | 0.9516 | 0.9969 | 1.0000 | 1.0000 |
| 43 | 0.0106 | 0.0237 | 0.0658 | 0.2286 | 0.7909 | 0.9630 | 0.9987 | 1.0000 | 1.0000 |
| 44 | 0.0093 | 0.0189 | 0.0545 | 0.1988 | 0.7600 | 0.9543 | 0.9983 | 1.0000 | 1.0000 |
| 45 | 0.0061 | 0.0140 | 0.0470 | 0.2017 | 0.7299 | 0.9428 | 0.9981 | 1.0000 | 1.0000 |
| 46 | 0.0038 | 0.0100 | 0.0526 | 0.2310 | 0.7608 | 0.9571 | 0.9985 | 1.0000 | 1.0000 |
| 47 | 0.0033 | 0.0158 | 0.0699 | 0.2567 | 0.7752 | 0.9677 | 0.9978 | 1.0000 | 1.0000 |
| 48 | 0.0029 | 0.0130 | 0.0476 | 0.2072 | 0.7427 | 0.9669 | 0.9985 | 1.0000 | 1.0000 |
| 49 | 0.0025 | 0.0089 | 0.0457 | 0.2166 | 0.7493 | 0.9597 | 0.9975 | 1.0000 | 1.0000 |
| 50 | 0.0030 | 0.0099 | 0.0593 | 0.2440 | 0.7622 | 0.9673 | 0.9972 | 1.0000 | 1.0000 |
| 51 | 0.0051 | 0.0122 | 0.0628 | 0.2530 | 0.7996 | 0.9765 | 0.9981 | 1.0000 | 1.0000 |
| 52 | 0.0050 | 0.0128 | 0.0499 | 0.2220 | 0.7888 | 0.9796 | 0.9980 | 1.0000 | 1.0000 |
| 53 | 0.0056 | 0.0135 | 0.0440 | 0.2112 | 0.7964 | 0.9764 | 0.9982 | 1.0000 | 1.0000 |
| 54 | 0.0047 | 0.0160 | 0.0591 | 0.2482 | 0.8103 | 0.9790 | 0.9983 | 1.0000 | 1.0000 |
| 55 | 0.0051 | 0.0157 | 0.0598 | 0.2258 | 0.7884 | 0.9740 | 0.9988 | 1.0000 | 1.0000 |
| 56 | 0.0059 | 0.0203 | 0.0517 | 0.2086 | 0.8071 | 0.9797 | 0.9992 | 1.0000 | 1.0000 |
| 57 | 0.0072 | 0.0207 | 0.0538 | 0.2177 | 0.7972 | 0.9731 | 1.0000 | 1.0000 | 1.0000 |
| 58 | 0.0092 | 0.0210 | 0.0506 | 0.2193 | 0.8173 | 0.9838 | 1.0000 | 1.0000 | 1.0000 |
| 59 | 0.0075 | 0.0157 | 0.0547 | 0.2019 | 0.8038 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 60 | 0.0086 | 0.0300 | 0.0833 | 0.3167 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

NY COMBINED GAS & DSL - FREEWAY

THE STATISTICS FOR CYCLE 2037082365 ARE AS FOLLOWS:

KOLMOGOROV-SMIRNOV DIFFERENCES:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX: | 0.0619 | 0.167 |
| CRUISE: | 0.0630 | 0.510 |
| ACCEL: | 0.1807 | 0.009 |
| DECEL: | 0.1357 | 0.141 |
| SPEED: | 0.0754 | 0.050 |
| DEL SPD: | 0.0307 | 0.921 |

SUMMARY PERCENTAGE MEASURES:

| | INPUT | CYCLE |
|---|---|---|
| IDLE: | 15.81 | 15.74 |
| CRUISE: | 41.20 | 36.73 * |
| ACCEL: | 22.24 | 25.31 |
| DECEL: | 20.74 | 22.22 |

AVERAGE SPEED FOR INPUT MATRIX: 26.39 MPH

AVERAGE SPEED FOR CYCLE: 26.91 MPH

CYCLE DISTANCE: 2.09 MILES

CYCLE DURATION: 4.67 MINUTES

* THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE.

DRIVING SCHEDULE FOR CYCLE 2037082365

NY GAS + DSL FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | |
| 1 | 0 | 51 | 15 | 101 | 19 | 151 | 48 |
| 2 | 0 | 52 | 16 | 102 | 21 | 152 | 49 |
| 3 | 0 | 53 | 16 | 103 | 21 | 153 | 48 |
| 4 | 0 | 54 | 17 | 104 | 22 | 154 | 48 |
| 5 | 0 | 55 | 17 | 105 | 24 | 155 | 48 |
| 6 | 0 | 56 | 17 | 106 | 23 | 156 | 48 |
| 7 | 0 | 57 | 17 | 107 | 22 | 157 | 48 |
| 8 | 0 | 58 | 17 | 108 | 22 | 158 | 49 |
| 9 | 0 | 59 | 17 | 109 | 23 | 159 | 50 |
| 10 | 0 | 60 | 19 | 110 | 21 | 160 | 50 |
| 11 | 0 | 61 | 19 | 111 | 21 | 161 | 52 |
| 12 | 0 | 62 | 19 | 112 | 23 | 162 | 52 |
| 13 | 2 | 63 | 20 | 113 | 22 | 163 | 53 |
| 14 | 0 | 64 | 20 | 114 | 22 | 164 | 52 |
| 15 | 0 | 65 | 18 | 115 | 24 | 165 | 52 |
| 16 | 0 | 66 | 18 | 116 | 27 | 166 | 52 |
| 17 | 0 | 67 | 19 | 117 | 27 | 167 | 52 |
| 18 | 0 | 68 | 17 | 118 | 29 | 168 | 52 |
| 19 | 0 | 69 | 18 | 119 | 29 | 169 | 52 |
| 20 | 0 | 70 | 19 | 120 | 31 | 170 | 53 |
| 21 | 0 | 71 | 19 | 121 | 32 | 171 | 53 |
| 22 | 3 | 72 | 22 | 122 | 32 | 172 | 53 |
| 23 | 4 | 73 | 19 | 123 | 32 | 173 | 54 |
| 24 | 4 | 74 | 19 | 124 | 32 | 174 | 54 |
| 25 | 3 | 75 | 23 | 125 | 34 | 175 | 53 |
| 26 | 3 | 76 | 23 | 126 | 34 | 176 | 53 |
| 27 | 4 | 77 | 23 | 127 | 35 | 177 | 53 |
| 28 | 4 | 78 | 23 | 128 | 34 | 178 | 52 |
| 29 | 6 | 79 | 24 | 129 | 37 | 179 | 53 |
| 30 | 9 | 80 | 24 | 130 | 39 | 180 | 53 |
| 31 | 9 | 81 | 24 | 131 | 39 | 181 | 53 |
| 32 | 9 | 82 | 24 | 132 | 40 | 182 | 52 |
| 33 | 10 | 83 | 24 | 133 | 40 | 183 | 48 |
| 34 | 11 | 84 | 23 | 134 | 42 | 184 | 48 |
| 35 | 11 | 85 | 24 | 135 | 42 | 185 | 48 |
| 36 | 13 | 86 | 23 | 136 | 42 | 186 | 49 |
| 37 | 13 | 87 | 23 | 137 | 42 | 187 | 49 |
| 38 | 13 | 88 | 25 | 138 | 41 | 188 | 48 |
| 39 | 13 | 89 | 25 | 139 | 41 | 189 | 45 |
| 40 | 14 | 90 | 24 | 140 | 41 | 190 | 45 |
| 41 | 15 | 91 | 23 | 141 | 42 | 191 | 43 |
| 42 | 14 | 92 | 24 | 142 | 42 | 192 | 40 |
| 43 | 14 | 93 | 23 | 143 | 43 | 193 | 41 |
| 44 | 15 | 94 | 23 | 144 | 44 | 194 | 41 |
| 45 | 15 | 95 | 20 | 145 | 45 | 195 | 41 |
| 46 | 19 | 96 | 20 | 146 | 46 | 196 | 41 |
| 47 | 16 | 97 | 21 | 147 | 46 | 197 | 40 |
| 48 | 15 | 98 | 21 | 148 | 46 | 198 | 40 |
| 49 | 16 | 99 | 19 | 149 | 46 | 199 | 39 |
| 50 | 16 | 100 | 19 | 150 | 47 | 200 | 39 |

DRIVING SCHEDULE FOR CYCLE 2037082365

NY GAS + DSL FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 39 | 232 | 45 | 263 | 39 | 294 | 0 |
| 202 | 39 | 233 | 47 | 264 | 39 | 295 | 0 |
| 203 | 39 | 234 | 45 | 265 | 38 | 296 | 0 |
| 204 | 40 | 235 | 45 | 266 | 35 | 297 | 0 |
| 205 | 41 | 236 | 44 | 267 | 35 | 298 | 0 |
| 206 | 42 | 237 | 45 | 268 | 35 | 299 | 0 |
| 207 | 42 | 238 | 44 | 269 | 35 | 300 | 0 |
| 208 | 42 | 239 | 44 | 270 | 37 | 301 | 0 |
| 209 | 42 | 240 | 45 | 271 | 37 | 302 | 0 |
| 210 | 41 | 241 | 43 | 272 | 36 | 303 | 0 |
| 211 | 42 | 242 | 43 | 273 | 34 | 304 | 0 |
| 212 | 42 | 243 | 44 | 274 | 32 | 305 | 0 |
| 213 | 41 | 244 | 45 | 275 | 31 | 306 | 0 |
| 214 | 42 | 245 | 43 | 276 | 28 | 307 | 0 |
| 215 | 43 | 246 | 42 | 277 | 26 | 308 | 0 |
| 216 | 42 | 247 | 41 | 278 | 25 | 309 | 0 |
| 217 | 43 | 248 | 41 | 279 | 21 | 310 | 0 |
| 218 | 43 | 249 | 41 | 280 | 20 | 311 | 0 |
| 219 | 43 | 250 | 39 | 281 | 19 | 312 | 0 |
| 220 | 44 | 251 | 40 | 282 | 15 | 313 | 0 |
| 221 | 45 | 252 | 39 | 283 | 14 | 314 | 0 |
| 222 | 45 | 253 | 35 | 284 | 13 | 315 | 0 |
| 223 | 46 | 254 | 35 | 285 | 11 | 316 | 0 |
| 224 | 44 | 255 | 35 | 286 | 9 | 317 | 0 |
| 225 | 44 | 256 | 35 | 287 | 8 | 318 | 0 |
| 226 | 44 | 257 | 36 | 288 | 6 | 319 | 0 |
| 227 | 44 | 258 | 37 | 289 | 4 | 320 | 0 |
| 228 | 44 | 259 | 37 | 290 | 3 | 321 | 0 |
| 229 | 44 | 260 | 39 | 291 | 1 | 322 | 0 |
| 230 | 46 | 261 | 39 | 292 | 0 | 323 | 0 |
| 231 | 45 | 262 | 39 | 293 | 0 | 324 | 0 |

DRIVING SCHEDULE FOR
CYCLE 2037082365

NY GAS + DSL FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | | | | | | |
| 1 | 0.0 | 51 | 17.06 | 101 | 27.00 | 151 | 53.23 |
| 2 | 0.0 | 52 | 19.00 | 102 | 29.00 | 152 | 53.00 |
| 3 | 0.0 | 53 | 19.00 | 103 | 29.43 | 153 | 52.92 |
| 4 | 0.0 | 54 | 19.50 | 104 | 31.37 | 154 | 52.24 |
| 5 | 0.0 | 55 | 20.00 | 105 | 32.00 | 155 | 53.00 |
| 6 | 0.0 | 56 | 18.37 | 106 | 32.00 | 156 | 53.00 |
| 7 | 0.0 | 57 | 18.00 | 107 | 32.00 | 157 | 52.29 |
| 8 | 0.0 | 58 | 18.74 | 108 | 34.00 | 158 | 48.52 |
| 9 | 0.0 | 59 | 17.29 | 109 | 34.16 | 159 | 48.00 |
| 10 | 0.0 | 60 | 18.44 | 110 | 34.69 | 160 | 48.19 |
| 11 | 1.46 | 61 | 19.00 | 111 | 35.42 | 161 | 49.00 |
| 12 | 0.22 | 62 | 21.28 | 112 | 38.26 | 162 | 48.50 |
| 13 | 0.0 | 63 | 19.25 | 113 | 39.00 | 163 | 46.03 |
| 14 | 0.0 | 64 | 19.30 | 114 | 39.94 | 164 | 45.00 |
| 15 | 0.0 | 65 | 23.00 | 115 | 40.20 | 165 | 43.06 |
| 16 | 0.0 | 66 | 23.00 | 116 | 42.00 | 166 | 40.13 |
| 17 | 0.0 | 67 | 23.00 | 117 | 42.00 | 167 | 41.00 |
| 18 | 0.0 | 68 | 23.70 | 118 | 42.00 | 168 | 41.00 |
| 19 | 2.97 | 69 | 24.00 | 119 | 41.27 | 169 | 41.00 |
| 20 | 4.00 | 70 | 24.00 | 120 | 41.00 | 170 | 40.24 |
| 21 | 3.69 | 71 | 24.00 | 121 | 41.05 | 171 | 40.00 |
| 22 | 3.00 | 72 | 23.67 | 122 | 42.00 | 172 | 39.00 |
| 23 | 3.62 | 73 | 23.49 | 123 | 42.36 | 173 | 39.00 |
| 24 | 4.00 | 74 | 23.35 | 124 | 43.52 | 174 | 39.00 |
| 25 | 5.87 | 75 | 23.00 | 125 | 44.68 | 175 | 39.00 |
| 26 | 9.00 | 76 | 24.93 | 126 | 45.83 | 176 | 39.70 |
| 27 | 9.00 | 77 | 24.88 | 127 | 46.00 | 177 | 40.86 |
| 28 | 9.41 | 78 | 23.72 | 128 | 46.00 | 178 | 42.00 |
| 29 | 10.56 | 79 | 23.44 | 129 | 46.31 | 179 | 42.00 |
| 30 | 11.00 | 80 | 23.41 | 130 | 47.46 | 180 | 42.00 |
| 31 | 12.76 | 81 | 23.00 | 131 | 48.62 | 181 | 41.51 |
| 32 | 13.00 | 82 | 20.28 | 132 | 48.22 | 182 | 41.65 |
| 33 | 13.00 | 83 | 20.06 | 133 | 48.00 | 183 | 42.00 |
| 34 | 13.35 | 84 | 21.00 | 134 | 48.00 | 184 | 41.04 |
| 35 | 14.51 | 85 | 20.24 | 135 | 48.00 | 185 | 42.12 |
| 36 | 14.33 | 86 | 19.00 | 136 | 48.41 | 186 | 42.72 |
| 37 | 14.00 | 87 | 19.00 | 137 | 49.56 | 187 | 42.44 |
| 38 | 14.98 | 88 | 20.70 | 138 | 50.00 | 188 | 43.00 |
| 39 | 15.56 | 89 | 21.01 | 139 | 51.76 | 189 | 43.00 |
| 40 | 18.11 | 90 | 22.33 | 140 | 52.04 | 190 | 43.91 |
| 41 | 15.55 | 91 | 23.68 | 141 | 52.81 | 191 | 45.00 |
| 42 | 15.61 | 92 | 22.52 | 142 | 52.00 | 192 | 45.22 |
| 43 | 16.00 | 93 | 22.00 | 143 | 52.00 | 193 | 45.24 |
| 44 | 15.07 | 94 | 22.80 | 144 | 52.00 | 194 | 44.00 |
| 45 | 16.00 | 95 | 21.09 | 145 | 52.00 | 195 | 44.00 |
| 46 | 16.24 | 96 | 21.22 | 146 | 52.00 | 196 | 44.00 |
| 47 | 17.00 | 97 | 22.73 | 147 | 53.00 | 197 | 44.00 |
| 48 | 17.00 | 98 | 22.00 | 148 | 53.00 | 198 | 44.33 |
| 49 | 17.00 | 99 | 23.17 | 149 | 53.45 | 199 | 45.68 |
| 50 | 17.00 | 100 | 26.22 | 150 | 54.00 | 200 | 45.00 |

DRIVING SCHEDULE FOR
CYCLE 2037082365

NY GAS + DSL FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 46.28 | 221 | 35.00 | 241 | 21.26 | 261 | 0.0 |
| 202 | 45.41 | 222 | 35.94 | 242 | 19.91 | 262 | 0.0 |
| 203 | 45.00 | 223 | 37.00 | 243 | 18.00 | 263 | 0.0 |
| 204 | 44.11 | 224 | 37.52 | 244 | 14.59 | 264 | 0.0 |
| 205 | 44.73 | 225 | 39.00 | 245 | 13.44 | 265 | 0.0 |
| 206 | 44.00 | 226 | 39.00 | 246 | 11.56 | 266 | 0.0 |
| 207 | 44.58 | 227 | 39.00 | 247 | 9.24 | 267 | 0.0 |
| 208 | 43.52 | 228 | 39.00 | 248 | 7.93 | 268 | 0.0 |
| 209 | 43.00 | 229 | 37.86 | 249 | 5.61 | 269 | 0.0 |
| 210 | 44.06 | 230 | 35.00 | 250 | 3.65 | 270 | 0.0 |
| 211 | 44.57 | 231 | 35.00 | 251 | 1.98 | 271 | 0.0 |
| 212 | 42.63 | 232 | 35.00 | 252 | 0.33 | 272 | 0.0 |
| 213 | 41.47 | 233 | 36.35 | 253 | 0.0 | 273 | 0.0 |
| 214 | 41.00 | 234 | 37.00 | 254 | 0.0 | 274 | 0.0 |
| 215 | 41.00 | 235 | 36.01 | 255 | 0.0 | 275 | 0.0 |
| 216 | 39.00 | 236 | 33.70 | 256 | 0.0 | 276 | 0.0 |
| 217 | 39.84 | 237 | 31.69 | 257 | 0.0 | 277 | 0.0 |
| 218 | 37.74 | 238 | 29.61 | 258 | 0.0 | 278 | 0.0 |
| 219 | 35.00 | 239 | 26.76 | 259 | 0.0 | 279 | 0.0 |
| 220 | 35.00 | 240 | 25.22 | 260 | 0.0 | 280 | 0.0 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX
NY COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 1126052 | 14107 | 3754 | 1670 | 1170 | 1146753 |
| 1 | 0 | 0 | 0 | 11055 | 22244 | 11306 | 3479 | 980 | 498 | 49562 |
| 2 | 0 | 0 | 6128 | 8818 | 17418 | 6103 | 4111 | 954 | 450 | 43982 |
| 3 | 0 | 1575 | 3651 | 7393 | 17181 | 6511 | 3372 | 995 | 481 | 41159 |
| 4 | 625 | 749 | 3591 | 6946 | 21651 | 6907 | 3198 | 1072 | 457 | 45190 |
| 5 | 411 | 945 | 3076 | 7130 | 13870 | 7499 | 3376 | 998 | 404 | 37709 |
| 6 | 518 | 895 | 2994 | 7625 | 13086 | 7559 | 3240 | 820 | 447 | 37184 |
| 7 | 508 | 850 | 2967 | 7319 | 12745 | 7712 | 2791 | 769 | 451 | 36112 |
| 8 | 506 | 1023 | 2931 | 6941 | 14286 | 7872 | 2630 | 931 | 458 | 37578 |
| 9 | 483 | 1036 | 2494 | 6726 | 13156 | 8063 | 2863 | 904 | 394 | 36119 |
| 10 | 589 | 966 | 2545 | 6798 | 12993 | 8367 | 2704 | 743 | 417 | 36122 |
| 11 | 580 | 929 | 2670 | 6827 | 12944 | 8423 | 2493 | 639 | 473 | 35978 |
| 12 | 614 | 1062 | 2880 | 6300 | 13064 | 8268 | 2291 | 788 | 536 | 35803 |
| 13 | 612 | 1160 | 2422 | 5907 | 13279 | 7686 | 2621 | 936 | 426 | 35049 |
| 14 | 687 | 1005 | 2385 | 5839 | 13999 | 7952 | 2639 | 768 | 332 | 35606 |
| 15 | 711 | 934 | 2570 | 6211 | 14239 | 7935 | 2143 | 586 | 379 | 35708 |
| 16 | 666 | 1022 | 2610 | 5869 | 14509 | 7570 | 1808 | 625 | 450 | 35129 |
| 17 | 727 | 1073 | 2189 | 5403 | 13869 | 7316 | 1993 | 754 | 473 | 33797 |
| 18 | 694 | 900 | 1978 | 5162 | 13551 | 6841 | 2146 | 780 | 367 | 32419 |
| 19 | 647 | 837 | 2001 | 5221 | 12827 | 6579 | 1955 | 593 | 276 | 30936 |
| 20 | 600 | 899 | 2050 | 5006 | 12758 | 6125 | 1705 | 536 | 233 | 29912 |
| 21 | 641 | 896 | 1925 | 4564 | 12567 | 5491 | 1523 | 579 | 284 | 28470 |
| 22 | 625 | 780 | 1626 | 4137 | 12018 | 5069 | 1669 | 654 | 263 | 26841 |
| 23 | 572 | 626 | 1547 | 3927 | 10643 | 4978 | 1693 | 497 | 170 | 24653 |
| 24 | 486 | 653 | 1520 | 3982 | 9754 | 4649 | 1256 | 323 | 146 | 22769 |
| 25 | 416 | 658 | 1568 | 3704 | 9176 | 4102 | 1052 | 307 | 149 | 21132 |
| 26 | 452 | 650 | 1269 | 3098 | 8959 | 3705 | 1009 | 377 | 167 | 19686 |
| 27 | 348 | 448 | 996 | 2903 | 7968 | 3563 | 1071 | 397 | 118 | 17812 |
| 28 | 254 | 406 | 984 | 2931 | 6703 | 3321 | 938 | 275 | 106 | 15918 |
| 29 | 232 | 375 | 1069 | 2653 | 6188 | 2852 | 680 | 225 | 83 | 14357 |
| 30 | 229 | 464 | 919 | 2176 | 5932 | 2508 | 687 | 210 | 60 | 13185 |
| 31 | 231 | 332 | 665 | 1896 | 5196 | 2372 | 718 | 180 | 37 | 11627 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
NY COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 205 | 275 | 649 | 1840 | 4976 | 2218 | 565 | 124 | 29 | 10881 |
| 33 | 197 | 228 | 626 | 1736 | 4684 | 1914 | 341 | 106 | 28 | 9860 |
| 34 | 177 | 205 | 556 | 1369 | 4527 | 1607 | 322 | 89 | 15 | 8867 |
| 35 | 154 | 165 | 359 | 1181 | 4327 | 1425 | 332 | 75 | 13 | 8031 |
| 36 | 150 | 104 | 314 | 1161 | 3665 | 1401 | 276 | 62 | 12 | 7145 |
| 37 | 109 | 109 | 305 | 1155 | 3806 | 1351 | 259 | 63 | 7 | 7164 |
| 38 | 104 | 95 | 280 | 1010 | 3526 | 1050 | 209 | 33 | 3 | 6310 |
| 39 | 79 | 99 | 257 | 836 | 3072 | 1008 | 222 | 29 | 1 | 5603 |
| 40 | 84 | 77 | 177 | 868 | 2506 | 1032 | 186 | 15 | 0 | 4945 |
| 41 | 54 | 57 | 179 | 837 | 2300 | 836 | 160 | 15 | 0 | 4438 |
| 42 | 52 | 48 | 183 | 677 | 2501 | 671 | 104 | 13 | 1 | 4250 |
| 43 | 34 | 58 | 135 | 555 | 2169 | 721 | 114 | 10 | 0 | 3796 |
| 44 | 27 | 36 | 99 | 561 | 1946 | 682 | 88 | 6 | 0 | 3445 |
| 45 | 27 | 31 | 92 | 510 | 1706 | 552 | 60 | 3 | 0 | 2981 |
| 46 | 23 | 18 | 85 | 399 | 1596 | 454 | 57 | 3 | 0 | 2635 |
| 47 | 24 | 21 | 83 | 331 | 1486 | 406 | 57 | 4 | 0 | 2412 |
| 48 | 18 | 13 | 50 | 305 | 1303 | 390 | 56 | 0 | 0 | 2135 |
| 49 | 12 | 13 | 63 | 294 | 1059 | 367 | 44 | 5 | 0 | 1857 |
| 50 | 13 | 8 | 53 | 283 | 986 | 355 | 46 | 1 | 0 | 1745 |
| 51 | 8 | 21 | 55 | 265 | 1018 | 312 | 22 | 1 | 0 | 1702 |
| 52 | 10 | 10 | 64 | 218 | 1053 | 280 | 23 | 1 | 0 | 1659 |
| 53 | 10 | 9 | 52 | 184 | 860 | 225 | 22 | 0 | 0 | 1362 |
| 54 | 8 | 11 | 35 | 187 | 650 | 226 | 24 | 1 | 0 | 1142 |
| 55 | 10 | 10 | 29 | 205 | 611 | 211 | 24 | 1 | 0 | 1101 |
| 56 | 5 | 3 | 22 | 188 | 523 | 156 | 25 | 0 | 0 | 922 |
| 57 | 7 | 9 | 31 | 143 | 586 | 127 | 9 | 0 | 0 | 912 |
| 58 | 8 | 9 | 29 | 127 | 431 | 86 | 7 | 0 | 0 | 697 |
| 59 | 6 | 5 | 22 | 87 | 386 | 71 | 0 | 0 | 0 | 577 |
| 60 | 30 | 4 | 17 | 71 | 3824 | 0 | 0 | 0 | 0 | 3946 |
| TOTALS | 16309 | 25899 | 73121 | 188050 | 1576908 | 229445 | 73262 | 22525 | 11264 | 2216783 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%)
NY COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 50.7967 | 0.6364 | 0.1693 | 0.0753 | 0.0528 |
| 1 | 0.0 | 0.0 | 0.0 | 0.4987 | 1.0034 | 0.5100 | 0.1569 | 0.0442 | 0.0225 |
| 2 | 0.0 | 0.0 | 0.2764 | 0.3978 | 0.7857 | 0.2753 | 0.1854 | 0.0430 | 0.0203 |
| 3 | 0.0 | 0.0710 | 0.1647 | 0.3335 | 0.7750 | 0.2937 | 0.1521 | 0.0449 | 0.0217 |
| 4 | 0.0282 | 0.0338 | 0.1620 | 0.3133 | 0.9767 | 0.3116 | 0.1443 | 0.0484 | 0.0206 |
| 5 | 0.0185 | 0.0426 | 0.1388 | 0.3216 | 0.6257 | 0.3383 | 0.1523 | 0.0450 | 0.0182 |
| 6 | 0.0234 | 0.0404 | 0.1351 | 0.3440 | 0.5903 | 0.3410 | 0.1462 | 0.0370 | 0.0202 |
| 7 | 0.0229 | 0.0383 | 0.1338 | 0.3302 | 0.5749 | 0.3479 | 0.1259 | 0.0347 | 0.0203 |
| 8 | 0.0228 | 0.0461 | 0.1322 | 0.3131 | 0.6444 | 0.3551 | 0.1186 | 0.0420 | 0.0207 |
| 9 | 0.0218 | 0.0467 | 0.1125 | 0.3034 | 0.5935 | 0.3637 | 0.1292 | 0.0408 | 0.0178 |
| 10 | 0.0266 | 0.0436 | 0.1148 | 0.3067 | 0.5861 | 0.3774 | 0.1220 | 0.0335 | 0.0188 |
| 11 | 0.0262 | 0.0419 | 0.1204 | 0.3080 | 0.5839 | 0.3800 | 0.1125 | 0.0288 | 0.0213 |
| 12 | 0.0277 | 0.0479 | 0.1299 | 0.2842 | 0.5893 | 0.3730 | 0.1033 | 0.0355 | 0.0242 |
| 13 | 0.0276 | 0.0523 | 0.1053 | 0.2665 | 0.5990 | 0.3467 | 0.1182 | 0.0422 | 0.0192 |
| 14 | 0.0310 | 0.0453 | 0.1076 | 0.2634 | 0.6315 | 0.3587 | 0.1190 | 0.0346 | 0.0150 |
| 15 | 0.0321 | 0.0421 | 0.1159 | 0.2802 | 0.6423 | 0.3580 | 0.0967 | 0.0264 | 0.0171 |
| 16 | 0.0300 | 0.0461 | 0.1177 | 0.2648 | 0.6545 | 0.3415 | 0.0816 | 0.0282 | 0.0203 |
| 17 | 0.0328 | 0.0484 | 0.0987 | 0.2437 | 0.6256 | 0.3300 | 0.0899 | 0.0340 | 0.0213 |
| 18 | 0.0313 | 0.0406 | 0.0892 | 0.2329 | 0.6113 | 0.3086 | 0.0968 | 0.0352 | 0.0166 |
| 19 | 0.0292 | 0.0378 | 0.0903 | 0.2355 | 0.5786 | 0.2968 | 0.0882 | 0.0268 | 0.0125 |
| 20 | 0.0271 | 0.0406 | 0.0925 | 0.2258 | 0.5755 | 0.2763 | 0.0769 | 0.0242 | 0.0105 |
| 21 | 0.0289 | 0.0404 | 0.0868 | 0.2059 | 0.5669 | 0.2477 | 0.0687 | 0.0261 | 0.0128 |
| 22 | 0.0282 | 0.0352 | 0.0733 | 0.1866 | 0.5421 | 0.2287 | 0.0753 | 0.0295 | 0.0119 |
| 23 | 0.0258 | 0.0282 | 0.0698 | 0.1771 | 0.4801 | 0.2246 | 0.0764 | 0.0224 | 0.0077 |
| 24 | 0.0219 | 0.0295 | 0.0686 | 0.1796 | 0.4400 | 0.2097 | 0.0567 | 0.0146 | 0.0066 |
| 25 | 0.0188 | 0.0297 | 0.0707 | 0.1671 | 0.4139 | 0.1850 | 0.0475 | 0.0138 | 0.0067 |
| 26 | 0.0204 | 0.0293 | 0.0572 | 0.1398 | 0.4041 | 0.1671 | 0.0455 | 0.0170 | 0.0075 |
| 27 | 0.0157 | 0.0202 | 0.0449 | 0.1310 | 0.3594 | 0.1607 | 0.0483 | 0.0179 | 0.0053 |
| 28 | 0.0115 | 0.0183 | 0.0444 | 0.1322 | 0.3024 | 0.1498 | 0.0423 | 0.0124 | 0.0048 |
| 29 | 0.0105 | 0.0169 | 0.0482 | 0.1197 | 0.2791 | 0.1287 | 0.0307 | 0.0101 | 0.0037 |
| 30 | 0.0103 | 0.0209 | 0.0415 | 0.0982 | 0.2676 | 0.1131 | 0.0310 | 0.0095 | 0.0027 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%) (CONTINUED)
NY COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 0.0104 | 0.0150 | 0.0300 | 0.0855 | 0.2344 | 0.1070 | 0.0324 | 0.0081 | 0.0017 |
| 32 | 0.0092 | 0.0124 | 0.0293 | 0.0830 | 0.2245 | 0.1001 | 0.0255 | 0.0056 | 0.0013 |
| 33 | 0.0089 | 0.0103 | 0.0282 | 0.0783 | 0.2113 | 0.0863 | 0.0154 | 0.0048 | 0.0013 |
| 34 | 0.0080 | 0.0092 | 0.0251 | 0.0618 | 0.2042 | 0.0725 | 0.0145 | 0.0040 | 0.0007 |
| 35 | 0.0069 | 0.0074 | 0.0162 | 0.0533 | 0.1952 | 0.0643 | 0.0150 | 0.0034 | 0.0006 |
| 36 | 0.0068 | 0.0047 | 0.0142 | 0.0524 | 0.1653 | 0.0632 | 0.0125 | 0.0028 | 0.0005 |
| 37 | 0.0049 | 0.0049 | 0.0138 | 0.0521 | 0.1717 | 0.0609 | 0.0117 | 0.0028 | 0.0003 |
| 38 | 0.0047 | 0.0043 | 0.0126 | 0.0456 | 0.1591 | 0.0474 | 0.0094 | 0.0015 | 0.0001 |
| 39 | 0.0036 | 0.0045 | 0.0116 | 0.0377 | 0.1386 | 0.0455 | 0.0100 | 0.0013 | 0.0000 |
| 40 | 0.0038 | 0.0035 | 0.0080 | 0.0392 | 0.1130 | 0.0466 | 0.0084 | 0.0007 | 0.0 |
| 41 | 0.0024 | 0.0026 | 0.0081 | 0.0378 | 0.1038 | 0.0377 | 0.0072 | 0.0007 | 0.0 |
| 42 | 0.0023 | 0.0022 | 0.0083 | 0.0305 | 0.1128 | 0.0303 | 0.0047 | 0.0006 | 0.0000 |
| 43 | 0.0015 | 0.0026 | 0.0061 | 0.0250 | 0.0978 | 0.0325 | 0.0051 | 0.0005 | 0.0 |
| 44 | 0.0012 | 0.0016 | 0.0045 | 0.0253 | 0.0878 | 0.0308 | 0.0040 | 0.0003 | 0.0 |
| 45 | 0.0012 | 0.0014 | 0.0042 | 0.0230 | 0.0770 | 0.0249 | 0.0027 | 0.0001 | 0.0 |
| 46 | 0.0010 | 0.0008 | 0.0038 | 0.0180 | 0.0720 | 0.0205 | 0.0026 | 0.0001 | 0.0 |
| 47 | 0.0011 | 0.0009 | 0.0037 | 0.0149 | 0.0670 | 0.0183 | 0.0026 | 0.0002 | 0.0 |
| 48 | 0.0008 | 0.0006 | 0.0023 | 0.0138 | 0.0588 | 0.0176 | 0.0025 | 0.0 | 0.0 |
| 49 | 0.0005 | 0.0006 | 0.0028 | 0.0133 | 0.0478 | 0.0166 | 0.0020 | 0.0002 | 0.0 |
| 50 | 0.0006 | 0.0004 | 0.0024 | 0.0128 | 0.0445 | 0.0160 | 0.0021 | 0.0000 | 0.0 |
| 51 | 0.0004 | 0.0009 | 0.0025 | 0.0120 | 0.0459 | 0.0141 | 0.0010 | 0.0000 | 0.0 |
| 52 | 0.0005 | 0.0005 | 0.0029 | 0.0098 | 0.0475 | 0.0126 | 0.0010 | 0.0000 | 0.0 |
| 53 | 0.0005 | 0.0004 | 0.0023 | 0.0083 | 0.0388 | 0.0101 | 0.0010 | 0.0 | 0.0 |
| 54 | 0.0004 | 0.0005 | 0.0016 | 0.0084 | 0.0293 | 0.0102 | 0.0011 | 0.0000 | 0.0 |
| 55 | 0.0005 | 0.0005 | 0.0013 | 0.0092 | 0.0276 | 0.0095 | 0.0011 | 0.0000 | 0.0 |
| 56 | 0.0002 | 0.0001 | 0.0010 | 0.0085 | 0.0236 | 0.0070 | 0.0011 | 0.0 | 0.0 |
| 57 | 0.0003 | 0.0004 | 0.0014 | 0.0065 | 0.0264 | 0.0057 | 0.0004 | 0.0 | 0.0 |
| 58 | 0.0004 | 0.0004 | 0.0013 | 0.0057 | 0.0194 | 0.0039 | 0.0003 | 0.0 | 0.0 |
| 59 | 0.0003 | 0.0002 | 0.0010 | 0.0039 | 0.0174 | 0.0032 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0014 | 0.0002 | 0.0008 | 0.0032 | 0.1725 | 0.0 | 0.0 | 0.0 | 0.0 |

TRANSITION-PROBABILITY MATRIX
NY COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9819 | 0.9942 | 0.9975 | 0.9990 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.2231 | 0.6719 | 0.9000 | 0.9702 | 0.9900 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.1393 | 0.3398 | 0.7358 | 0.8746 | 0.9681 | 0.9898 | 1.0000 |
| 3 | 0.0 | 0.0383 | 0.1270 | 0.3066 | 0.7240 | 0.8822 | 0.9641 | 0.9883 | 1.0000 |
| 4 | 0.0138 | 0.0304 | 0.1099 | 0.2635 | 0.7426 | 0.8954 | 0.9662 | 0.9899 | 1.0000 |
| 5 | 0.0109 | 0.0360 | 0.1175 | 0.3066 | 0.6744 | 0.8733 | 0.9628 | 0.9893 | 1.0000 |
| 6 | 0.0139 | 0.0380 | 0.1185 | 0.3236 | 0.6755 | 0.8788 | 0.9659 | 0.9880 | 1.0000 |
| 7 | 0.0141 | 0.0376 | 0.1198 | 0.3224 | 0.6754 | 0.8889 | 0.9662 | 0.9875 | 1.0000 |
| 8 | 0.0135 | 0.0407 | 0.1187 | 0.3034 | 0.6836 | 0.8930 | 0.9630 | 0.9878 | 1.0000 |
| 9 | 0.0134 | 0.0421 | 0.1111 | 0.2973 | 0.6616 | 0.8848 | 0.9641 | 0.9891 | 1.0000 |
| 10 | 0.0163 | 0.0430 | 0.1135 | 0.3017 | 0.6614 | 0.8930 | 0.9679 | 0.9885 | 1.0000 |
| 11 | 0.0161 | 0.0419 | 0.1162 | 0.3059 | 0.6657 | 0.8998 | 0.9691 | 0.9869 | 1.0000 |
| 12 | 0.0171 | 0.0468 | 0.1273 | 0.3032 | 0.6681 | 0.8990 | 0.9630 | 0.9850 | 1.0000 |
| 13 | 0.0175 | 0.0506 | 0.1197 | 0.2882 | 0.6671 | 0.8864 | 0.9611 | 0.9878 | 1.0000 |
| 14 | 0.0193 | 0.0475 | 0.1145 | 0.2785 | 0.6717 | 0.8950 | 0.9691 | 0.9907 | 1.0000 |
| 15 | 0.0199 | 0.0461 | 0.1180 | 0.2920 | 0.6907 | 0.9130 | 0.9730 | 0.9894 | 1.0000 |
| 16 | 0.0190 | 0.0481 | 0.1223 | 0.2894 | 0.7024 | 0.9179 | 0.9694 | 0.9872 | 1.0000 |
| 17 | 0.0215 | 0.0533 | 0.1180 | 0.2779 | 0.6883 | 0.9047 | 0.9637 | 0.9860 | 1.0000 |
| 18 | 0.0214 | 0.0492 | 0.1102 | 0.2694 | 0.6874 | 0.8984 | 0.9646 | 0.9887 | 1.0000 |
| 19 | 0.0209 | 0.0480 | 0.1127 | 0.2814 | 0.6960 | 0.9087 | 0.9719 | 0.9911 | 1.0000 |
| 20 | 0.0201 | 0.0501 | 0.1186 | 0.2860 | 0.7125 | 0.9173 | 0.9743 | 0.9922 | 1.0000 |
| 21 | 0.0225 | 0.0540 | 0.1216 | 0.2819 | 0.7233 | 0.9162 | 0.9697 | 0.9900 | 1.0000 |
| 22 | 0.0233 | 0.0523 | 0.1129 | 0.2671 | 0.7148 | 0.9037 | 0.9658 | 0.9902 | 1.0000 |
| 23 | 0.0232 | 0.0486 | 0.1113 | 0.2706 | 0.7023 | 0.9043 | 0.9729 | 0.9931 | 1.0000 |
| 24 | 0.0213 | 0.0500 | 0.1168 | 0.2917 | 0.7201 | 0.9242 | 0.9794 | 0.9936 | 1.0000 |
| 25 | 0.0197 | 0.0508 | 0.1250 | 0.3003 | 0.7345 | 0.9286 | 0.9784 | 0.9929 | 1.0000 |
| 26 | 0.0230 | 0.0560 | 0.1204 | 0.2778 | 0.7329 | 0.9211 | 0.9724 | 0.9915 | 1.0000 |
| 27 | 0.0195 | 0.0447 | 0.1006 | 0.2636 | 0.7109 | 0.9110 | 0.9711 | 0.9934 | 1.0000 |
| 28 | 0.0160 | 0.0415 | 0.1033 | 0.2874 | 0.7085 | 0.9171 | 0.9761 | 0.9933 | 1.0000 |
| 29 | 0.0162 | 0.0423 | 0.1167 | 0.3015 | 0.7325 | 0.9312 | 0.9785 | 0.9942 | 1.0000 |
| 30 | 0.0174 | 0.0526 | 0.1223 | 0.2873 | 0.7372 | 0.9274 | 0.9795 | 0.9954 | 1.0000 |
| 31 | 0.0199 | 0.0484 | 0.1056 | 0.2687 | 0.7156 | 0.9196 | 0.9813 | 0.9968 | 1.0000 |

TRANSITION-PROBABILITY MATRIX (CONTINUED)
NY COMBINED GAS & DSL - NONFREEWAY

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0188 | 0.0441 | 0.1038 | 0.2729 | 0.7302 | 0.9340 | 0.9859 | 0.9973 | 1.0000 |
| 33 | 0.0200 | 0.0431 | 0.1066 | 0.2827 | 0.7577 | 0.9518 | 0.9864 | 0.9972 | 1.0000 |
| 34 | 0.0200 | 0.0431 | 0.1058 | 0.2602 | 0.7707 | 0.9520 | 0.9883 | 0.9983 | 1.0000 |
| 35 | 0.0192 | 0.0397 | 0.0844 | 0.2315 | 0.7703 | 0.9477 | 0.9890 | 0.9984 | 1.0000 |
| 36 | 0.0210 | 0.0355 | 0.0795 | 0.2420 | 0.7549 | 0.9510 | 0.9896 | 0.9983 | 1.0000 |
| 37 | 0.0152 | 0.0304 | 0.0730 | 0.2342 | 0.7655 | 0.9541 | 0.9902 | 0.9990 | 1.0000 |
| 38 | 0.0165 | 0.0315 | 0.0759 | 0.2360 | 0.7948 | 0.9612 | 0.9943 | 0.9995 | 1.0000 |
| 39 | 0.0141 | 0.0318 | 0.0776 | 0.2268 | 0.7751 | 0.9550 | 0.9946 | 0.9998 | 1.0000 |
| 40 | 0.0170 | 0.0326 | 0.0684 | 0.2439 | 0.7507 | 0.9594 | 0.9970 | 1.0000 | 1.0000 |
| 41 | 0.0122 | 0.0250 | 0.0653 | 0.2539 | 0.7722 | 0.9606 | 0.9966 | 1.0000 | 1.0000 |
| 42 | 0.0122 | 0.0235 | 0.0666 | 0.2259 | 0.8144 | 0.9722 | 0.9967 | 0.9998 | 1.0000 |
| 43 | 0.0090 | 0.0242 | 0.0598 | 0.2060 | 0.7774 | 0.9673 | 0.9974 | 1.0000 | 1.0000 |
| 44 | 0.0078 | 0.0183 | 0.0470 | 0.2099 | 0.7747 | 0.9727 | 0.9983 | 1.0000 | 1.0000 |
| 45 | 0.0091 | 0.0195 | 0.0503 | 0.2214 | 0.7937 | 0.9789 | 0.9990 | 1.0000 | 1.0000 |
| 46 | 0.0087 | 0.0156 | 0.0478 | 0.1992 | 0.8049 | 0.9772 | 0.9989 | 1.0000 | 1.0000 |
| 47 | 0.0100 | 0.0187 | 0.0531 | 0.1903 | 0.8064 | 0.9747 | 0.9983 | 1.0000 | 1.0000 |
| 48 | 0.0084 | 0.0145 | 0.0379 | 0.1808 | 0.7911 | 0.9738 | 1.0000 | 1.0000 | 1.0000 |
| 49 | 0.0065 | 0.0135 | 0.0474 | 0.2057 | 0.7760 | 0.9736 | 0.9973 | 1.0000 | 1.0000 |
| 50 | 0.0074 | 0.0120 | 0.0424 | 0.2046 | 0.7696 | 0.9731 | 0.9994 | 1.0000 | 1.0000 |
| 51 | 0.0047 | 0.0170 | 0.0494 | 0.2051 | 0.8032 | 0.9865 | 0.9994 | 1.0000 | 1.0000 |
| 52 | 0.0060 | 0.0121 | 0.0506 | 0.1820 | 0.8168 | 0.9855 | 0.9994 | 1.0000 | 1.0000 |
| 53 | 0.0073 | 0.0140 | 0.0521 | 0.1872 | 0.8186 | 0.9838 | 1.0000 | 1.0000 | 1.0000 |
| 54 | 0.0070 | 0.0166 | 0.0473 | 0.2110 | 0.7802 | 0.9781 | 0.9991 | 1.0000 | 1.0000 |
| 55 | 0.0091 | 0.0182 | 0.0445 | 0.2307 | 0.7856 | 0.9773 | 0.9991 | 1.0000 | 1.0000 |
| 56 | 0.0054 | 0.0087 | 0.0325 | 0.2364 | 0.8037 | 0.9729 | 1.0000 | 1.0000 | 1.0000 |
| 57 | 0.0077 | 0.0175 | 0.0515 | 0.2083 | 0.8509 | 0.9901 | 1.0000 | 1.0000 | 1.0000 |
| 58 | 0.0115 | 0.0244 | 0.0660 | 0.2482 | 0.8666 | 0.9900 | 1.0000 | 1.0000 | 1.0000 |
| 59 | 0.0104 | 0.0191 | 0.0572 | 0.2080 | 0.8769 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 60 | 0.0076 | 0.0086 | 0.0129 | 0.0309 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

NY COMBINED GAS & DSL - NONFREEWAY

THE STATISTICS FOR CYCLE 2120127413 ARE AS FOLLOWS:

KOLMOGOROV-SMIRNOV DIFFERENCES:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX: | 0.0354 | 0.854 |
| CRUISE: | 0.0665 | 0.351 |
| ACCEL: | 0.1273 | 0.380 |
| DECEL: | 0.0999 | 0.736 |
| SPEED: | 0.0397 | 0.743 |
| DEL SPD: | 0.0231 | 0.998 |

SUMMARY PERCENTAGE MEASURES:

| | INPUT | CYCLE |
|---|---|---|
| IDLE: | 50.80 | 52.04 |
| CRUISE: | 20.34 | 14.63 * |
| ACCEL: | 15.18 | 17.35 |
| DECEL: | 13.69 | 15.99 |

| | |
|---|---|
| AVERAGE SPEED FOR INPUT MATRIX: | 7.80 MPH |
| AVERAGE SPEED FOR CYCLE: | 7.57 MPH |
| CYCLE DISTANCE: | 0.53 MILES |
| CYCLE DURATION: | 4.23 MINUTES |

* THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE.

DRIVING SCHEDULE FOR CYCLE 2120127413

NY GAS + DSL NON-FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | |
| 1 | 0 | 51 | 0 | 101 | 0 | 151 | 0 |
| 2 | 0 | 52 | 0 | 102 | 0 | 152 | 0 |
| 3 | 0 | 53 | 0 | 103 | 0 | 153 | 0 |
| 4 | 0 | 54 | 0 | 104 | 0 | 154 | 0 |
| 5 | 0 | 55 | 0 | 105 | 0 | 155 | 0 |
| 6 | 0 | 56 | 0 | 106 | 0 | 156 | 0 |
| 7 | 0 | 57 | 0 | 107 | 1 | 157 | 0 |
| 8 | 0 | 58 | 0 | 108 | 2 | 158 | 0 |
| 9 | 0 | 59 | 0 | 109 | 0 | 159 | 0 |
| 10 | 0 | 60 | 0 | 110 | 0 | 160 | 0 |
| 11 | 0 | 61 | 0 | 111 | 0 | 161 | 0 |
| 12 | 0 | 62 | 0 | 112 | 0 | 162 | 0 |
| 13 | 0 | 63 | 0 | 113 | 0 | 163 | 0 |
| 14 | 0 | 64 | 0 | 114 | 0 | 164 | 1 |
| 15 | 0 | 65 | 0 | 115 | 0 | 165 | 1 |
| 16 | 0 | 66 | 0 | 116 | 0 | 166 | 2 |
| 17 | 0 | 67 | 0 | 117 | 0 | 167 | 3 |
| 18 | 0 | 68 | 1 | 118 | 0 | 168 | 5 |
| 19 | 0 | 69 | 0 | 119 | 0 | 169 | 7 |
| 20 | 0 | 70 | 0 | 120 | 0 | 170 | 9 |
| 21 | 0 | 71 | 0 | 121 | 0 | 171 | 8 |
| 22 | 0 | 72 | 0 | 122 | 0 | 172 | 7 |
| 23 | 0 | 73 | 0 | 123 | 0 | 173 | 8 |
| 24 | 0 | 74 | 4 | 124 | 0 | 174 | 10 |
| 25 | 0 | 75 | 6 | 125 | 0 | 175 | 10 |
| 26 | 0 | 76 | 6 | 126 | 0 | 176 | 9 |
| 27 | 0 | 77 | 6 | 127 | 0 | 177 | 10 |
| 28 | 0 | 78 | 6 | 128 | 0 | 178 | 11 |
| 29 | 0 | 79 | 5 | 129 | 0 | 179 | 12 |
| 30 | 0 | 80 | 4 | 130 | 0 | 180 | 14 |
| 31 | 0 | 81 | 2 | 131 | 0 | 181 | 14 |
| 32 | 0 | 82 | 0 | 132 | 0 | 182 | 12 |
| 33 | 0 | 83 | 0 | 133 | 0 | 183 | 13 |
| 34 | 0 | 84 | 0 | 134 | 0 | 184 | 13 |
| 35 | 0 | 85 | 0 | 135 | 0 | 185 | 13 |
| 36 | 0 | 86 | 0 | 136 | 0 | 186 | 13 |
| 37 | 0 | 87 | 0 | 137 | 0 | 187 | 15 |
| 38 | 0 | 88 | 0 | 138 | 0 | 188 | 15 |
| 39 | 0 | 89 | 0 | 139 | 0 | 189 | 15 |
| 40 | 0 | 90 | 0 | 140 | 0 | 190 | 13 |
| 41 | 1 | 91 | 0 | 141 | 0 | 191 | 12 |
| 42 | 0 | 92 | 0 | 142 | 0 | 192 | 12 |
| 43 | 0 | 93 | 0 | 143 | 0 | 193 | 14 |
| 44 | 0 | 94 | 0 | 144 | 0 | 194 | 15 |
| 45 | 0 | 95 | 0 | 145 | 0 | 195 | 14 |
| 46 | 0 | 96 | 0 | 146 | 0 | 196 | 16 |
| 47 | 0 | 97 | 0 | 147 | 0 | 197 | 17 |
| 48 | 0 | 98 | 0 | 148 | 0 | 198 | 17 |
| 49 | 0 | 99 | 0 | 149 | 0 | 199 | 17 |
| 50 | 0 | 100 | 0 | 150 | 0 | 200 | 17 |

DRIVING SCHEDULE FOR CYCLE 2120127413

NY GAS + DSL NON-FREEWAY .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 18 | 225 | 10 | 249 | 33 | 273 | 32 |
| 202 | 20 | 226 | 11 | 250 | 31 | 274 | 31 |
| 203 | 21 | 227 | 11 | 251 | 31 | 275 | 28 |
| 204 | 19 | 228 | 9 | 252 | 31 | 276 | 24 |
| 205 | 18 | 229 | 9 | 253 | 33 | 277 | 23 |
| 206 | 18 | 230 | 9 | 254 | 33 | 278 | 21 |
| 207 | 17 | 231 | 10 | 255 | 32 | 279 | 17 |
| 208 | 17 | 232 | 10 | 256 | 30 | 280 | 16 |
| 209 | 15 | 233 | 9 | 257 | 30 | 281 | 14 |
| 210 | 15 | 234 | 9 | 258 | 30 | 282 | 13 |
| 211 | 15 | 235 | 10 | 259 | 30 | 283 | 12 |
| 212 | 15 | 236 | 14 | 260 | 32 | 284 | 9 |
| 213 | 16 | 237 | 17 | 261 | 33 | 285 | 8 |
| 214 | 12 | 238 | 19 | 262 | 33 | 286 | 5 |
| 215 | 15 | 239 | 20 | 263 | 32 | 287 | 3 |
| 216 | 16 | 240 | 20 | 264 | 32 | 288 | 0 |
| 217 | 12 | 241 | 21 | 265 | 31 | 289 | 0 |
| 218 | 13 | 242 | 21 | 266 | 32 | 290 | 0 |
| 219 | 12 | 243 | 21 | 267 | 33 | 291 | 0 |
| 220 | 9 | 244 | 23 | 268 | 34 | 292 | 0 |
| 221 | 8 | 245 | 27 | 269 | 34 | 293 | 0 |
| 222 | 8 | 246 | 27 | 270 | 34 | 294 | 0 |
| 223 | 8 | 247 | 27 | 271 | 34 | | |
| 224 | 9 | 248 | 30 | 272 | 33 | | |

DRIVING SCHEDULE FOR
CYCLE 2120127413

NY GAS + DSL NON-FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | | | | | | |
| 1 | 0.0 | 51 | 0.0 | 101 | 0.0 | 151 | 10.00 |
| 2 | 0.0 | 52 | 0.0 | 102 | 0.0 | 152 | 9.07 |
| 3 | 0.0 | 53 | 0.0 | 103 | 0.0 | 153 | 10.08 |
| 4 | 0.0 | 54 | 0.0 | 104 | 0.0 | 154 | 11.24 |
| 5 | 0.0 | 55 | 0.0 | 105 | 0.0 | 155 | 12.80 |
| 6 | 0.0 | 56 | 0.0 | 106 | 0.0 | 156 | 14.00 |
| 7 | 0.0 | 57 | 0.0 | 107 | 0.0 | 157 | 12.57 |
| 8 | 0.0 | 58 | 0.13 | 108 | 0.0 | 158 | 12.87 |
| 9 | 0.0 | 59 | 0.71 | 109 | 0.0 | 159 | 13.00 |
| 10 | 0.0 | 60 | 0.0 | 110 | 0.0 | 160 | 13.00 |
| 11 | 0.0 | 61 | 0.0 | 111 | 0.0 | 161 | 13.69 |
| 12 | 0.0 | 62 | 0.0 | 112 | 0.0 | 162 | 15.00 |
| 13 | 0.0 | 63 | 0.0 | 113 | 0.0 | 163 | 15.00 |
| 14 | 0.0 | 64 | 4.15 | 114 | 0.0 | 164 | 13.37 |
| 15 | 0.0 | 65 | 6.00 | 115 | 0.0 | 165 | 12.03 |
| 16 | 0.0 | 66 | 6.00 | 116 | 0.0 | 166 | 12.26 |
| 17 | 0.0 | 67 | 6.00 | 117 | 0.0 | 167 | 14.29 |
| 18 | 0.0 | 68 | 5.30 | 118 | 0.0 | 168 | 14.56 |
| 19 | 0.0 | 69 | 4.14 | 119 | 0.0 | 169 | 15.20 |
| 20 | 0.0 | 70 | 1.96 | 120 | 0.0 | 170 | 16.76 |
| 21 | 0.0 | 71 | 0.0 | 121 | 0.0 | 171 | 17.00 |
| 22 | 0.0 | 72 | 0.0 | 122 | 0.0 | 172 | 17.00 |
| 23 | 0.0 | 73 | 0.0 | 123 | 0.0 | 173 | 17.23 |
| 24 | 0.0 | 74 | 0.0 | 124 | 0.0 | 174 | 18.78 |
| 25 | 0.0 | 75 | 0.0 | 125 | 0.0 | 175 | 20.55 |
| 26 | 0.0 | 76 | 0.0 | 126 | 0.0 | 176 | 19.59 |
| 27 | 0.0 | 77 | 0.0 | 127 | 0.0 | 177 | 18.14 |
| 28 | 0.0 | 78 | 0.0 | 128 | 0.0 | 178 | 17.98 |
| 29 | 0.0 | 79 | 0.0 | 129 | 0.0 | 179 | 17.00 |
| 30 | 0.0 | 80 | 0.0 | 130 | 0.0 | 180 | 16.33 |
| 31 | 0.0 | 81 | 0.0 | 131 | 0.0 | 181 | 15.00 |
| 32 | 0.0 | 82 | 0.0 | 132 | 0.0 | 182 | 15.00 |
| 33 | 0.0 | 83 | 0.0 | 133 | 0.0 | 183 | 15.00 |
| 34 | 0.0 | 84 | 0.0 | 134 | 0.0 | 184 | 15.96 |
| 35 | 0.51 | 85 | 0.0 | 135 | 0.0 | 185 | 12.36 |
| 36 | 0.33 | 86 | 0.0 | 136 | 0.0 | 186 | 15.28 |
| 37 | 0.0 | 87 | 0.0 | 137 | 0.0 | 187 | 14.26 |
| 38 | 0.0 | 88 | 0.0 | 138 | 0.0 | 188 | 12.59 |
| 39 | 0.0 | 89 | 0.0 | 139 | 0.0 | 189 | 12.25 |
| 40 | 0.0 | 90 | 0.0 | 140 | 0.0 | 190 | 9.28 |
| 41 | 0.0 | 91 | 0.0 | 141 | 0.19 | 191 | 8.00 |
| 42 | 0.0 | 92 | 0.48 | 142 | 1.00 | 192 | 8.00 |
| 43 | 0.0 | 93 | 1.64 | 143 | 1.51 | 193 | 8.38 |
| 44 | 0.0 | 94 | 0.41 | 144 | 2.67 | 194 | 9.54 |
| 45 | 0.0 | 95 | 0.0 | 145 | 4.65 | 195 | 10.69 |
| 46 | 0.0 | 96 | 0.0 | 146 | 6.96 | 196 | 11.00 |
| 47 | 0.0 | 97 | 0.0 | 147 | 8.86 | 197 | 9.00 |
| 48 | 0.0 | 98 | 0.0 | 148 | 7.70 | 198 | 9.00 |
| 49 | 0.0 | 99 | 0.0 | 149 | 7.45 | 199 | 9.32 |
| 50 | 0.0 | 100 | 0.0 | 150 | 9.22 | 200 | 10.00 |

DRIVING SCHEDULE FOR
CYCLE 2120127413

NY GAS + DSL NON-FREEWAY 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 9.36 | 215 | 32.53 | 229 | 31.05 | 243 | 13.75 |
| 202 | 9.00 | 216 | 31.00 | 230 | 32.20 | 244 | 12.59 |
| 203 | 9.95 | 217 | 31.00 | 231 | 33.36 | 245 | 10.31 |
| 204 | 14.33 | 218 | 31.63 | 232 | 34.00 | 246 | 8.28 |
| 205 | 17.54 | 219 | 33.00 | 233 | 34.00 | 247 | 5.36 |
| 206 | 19.43 | 220 | 32.37 | 234 | 34.00 | 248 | 2.89 |
| 207 | 20.00 | 221 | 30.43 | 235 | 33.01 | 249 | 0.0 |
| 208 | 20.74 | 222 | 30.00 | 236 | 31.85 | 250 | 0.0 |
| 209 | 21.00 | 223 | 30.00 | 237 | 30.08 | 251 | 0.0 |
| 210 | 21.11 | 224 | 30.52 | 238 | 26.15 | 252 | 0.0 |
| 211 | 23.85 | 225 | 32.42 | 239 | 23.38 | 253 | 0.0 |
| 212 | 27.00 | 226 | 33.00 | 240 | 21.44 | 254 | 0.0 |
| 213 | 27.00 | 227 | 32.27 | 241 | 17.26 | | |
| 214 | 29.06 | 228 | 32.00 | 242 | 15.81 | | |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX
LA BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 51875 | 1966 | 800 | 261 | 80 | 54982 |
| 1 | 0 | 0 | 0 | 2068 | 2393 | 851 | 898 | 385 | 92 | 6687 |
| 2 | 0 | 0 | 523 | 1312 | 1007 | 629 | 755 | 417 | 134 | 4777 |
| 3 | 0 | 136 | 917 | 655 | 862 | 595 | 705 | 456 | 127 | 4453 |
| 4 | 41 | 391 | 719 | 454 | 855 | 556 | 732 | 545 | 115 | 4408 |
| 5 | 72 | 486 | 613 | 405 | 769 | 536 | 677 | 514 | 102 | 4174 |
| 6 | 152 | 565 | 522 | 410 | 649 | 570 | 723 | 516 | 101 | 4208 |
| 7 | 197 | 537 | 452 | 425 | 662 | 562 | 837 | 494 | 77 | 4243 |
| 8 | 291 | 469 | 493 | 492 | 727 | 628 | 823 | 440 | 81 | 4444 |
| 9 | 288 | 494 | 525 | 500 | 710 | 762 | 930 | 422 | 45 | 4676 |
| 10 | 262 | 480 | 481 | 532 | 1072 | 819 | 1019 | 322 | 33 | 5020 |
| 11 | 279 | 464 | 569 | 556 | 912 | 857 | 1119 | 280 | 32 | 5068 |
| 12 | 263 | 464 | 556 | 657 | 990 | 1006 | 1235 | 174 | 32 | 5377 |
| 13 | 273 | 493 | 557 | 714 | 1199 | 1355 | 971 | 142 | 23 | 5727 |
| 14 | 239 | 461 | 596 | 820 | 3087 | 1733 | 1003 | 101 | 30 | 8070 |
| 15 | 220 | 417 | 608 | 705 | 2073 | 1311 | 1131 | 174 | 33 | 6672 |
| 16 | 216 | 424 | 619 | 676 | 1142 | 1116 | 1089 | 152 | 31 | 5467 |
| 17 | 222 | 421 | 639 | 787 | 1508 | 1168 | 1111 | 144 | 32 | 6032 |
| 18 | 168 | 388 | 583 | 771 | 1105 | 1186 | 867 | 135 | 26 | 5229 |
| 19 | 124 | 347 | 549 | 825 | 1184 | 1293 | 897 | 121 | 21 | 5361 |
| 20 | 130 | 379 | 506 | 787 | 1368 | 1281 | 969 | 96 | 8 | 5524 |
| 21 | 123 | 310 | 500 | 833 | 1569 | 1382 | 858 | 59 | 2 | 5636 |
| 22 | 102 | 282 | 511 | 921 | 1471 | 1565 | 662 | 24 | 1 | 5539 |
| 23 | 69 | 281 | 471 | 924 | 1548 | 1819 | 484 | 14 | 1 | 5611 |
| 24 | 94 | 251 | 428 | 845 | 2784 | 1901 | 522 | 21 | 0 | 6846 |
| 25 | 95 | 216 | 428 | 807 | 2981 | 1815 | 431 | 13 | 0 | 6786 |
| 26 | 60 | 161 | 409 | 786 | 1520 | 1776 | 316 | 8 | 0 | 5036 |
| 27 | 39 | 189 | 407 | 805 | 1583 | 1684 | 355 | 10 | 0 | 5072 |
| 28 | 41 | 177 | 324 | 779 | 2024 | 1584 | 378 | 7 | 0 | 5314 |
| 29 | 60 | 125 | 319 | 810 | 2038 | 1563 | 390 | 9 | 0 | 5314 |
| 30 | 38 | 117 | 287 | 906 | 2081 | 1690 | 334 | 8 | 0 | 5461 |
| 31 | 20 | 109 | 296 | 1007 | 1896 | 1709 | 283 | 2 | 0 | 5322 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
LA BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 28 | 97 | 281 | 1119 | 2102 | 1547 | 202 | 1 | 0 | 5377 |
| 33 | 28 | 99 | 225 | 988 | 2213 | 1378 | 178 | 4 | 0 | 5113 |
| 34 | 14 | 55 | 190 | 793 | 1839 | 1292 | 320 | 4 | 0 | 4507 |
| 35 | 7 | 60 | 212 | 765 | 1615 | 1169 | 345 | 0 | 0 | 4173 |
| 36 | 13 | 46 | 321 | 766 | 1390 | 973 | 173 | 0 | 0 | 3682 |
| 37 | 11 | 73 | 292 | 604 | 1486 | 823 | 144 | 0 | 0 | 3433 |
| 38 | 12 | 68 | 157 | 552 | 1767 | 735 | 119 | 0 | 0 | 3410 |
| 39 | 14 | 37 | 119 | 537 | 1669 | 720 | 113 | 0 | 0 | 3209 |
| 40 | 4 | 19 | 126 | 511 | 1925 | 672 | 32 | 0 | 0 | 3289 |
| 41 | 1 | 25 | 116 | 369 | 2226 | 466 | 15 | 0 | 0 | 3218 |
| 42 | 4 | 21 | 63 | 228 | 891 | 367 | 13 | 0 | 0 | 1587 |
| 43 | 4 | 11 | 45 | 215 | 788 | 386 | 15 | 0 | 0 | 1464 |
| 44 | 2 | 8 | 42 | 214 | 743 | 327 | 12 | 0 | 0 | 1348 |
| 45 | 3 | 9 | 34 | 193 | 697 | 286 | 1 | 0 | 0 | 1223 |
| 46 | 1 | 7 | 33 | 155 | 737 | 289 | 8 | 0 | 0 | 1230 |
| 47 | 1 | 4 | 24 | 175 | 788 | 302 | 13 | 0 | 0 | 1307 |
| 48 | 4 | 9 | 20 | 195 | 814 | 312 | 6 | 0 | 0 | 1360 |
| 49 | 4 | 6 | 14 | 184 | 1041 | 264 | 1 | 0 | 0 | 1514 |
| 50 | 3 | 2 | 15 | 179 | 1134 | 274 | 5 | 0 | 0 | 1612 |
| 51 | 3 | 2 | 7 | 171 | 1399 | 301 | 3 | 0 | 0 | 1886 |
| 52 | 2 | 1 | 10 | 207 | 1613 | 327 | 6 | 0 | 0 | 2166 |
| 53 | 1 | 1 | 5 | 224 | 1856 | 316 | 3 | 0 | 0 | 2406 |
| 54 | 0 | 4 | 7 | 226 | 1977 | 269 | 2 | 0 | 0 | 2485 |
| 55 | 1 | 2 | 4 | 164 | 2090 | 290 | 2 | 0 | 0 | 2553 |
| 56 | 1 | 2 | 5 | 178 | 1944 | 239 | 1 | 0 | 0 | 2370 |
| 57 | 2 | 1 | 4 | 148 | 1653 | 197 | 1 | 0 | 0 | 2006 |
| 58 | 0 | 1 | 5 | 112 | 1176 | 147 | 0 | 0 | 0 | 1441 |
| 59 | 0 | 0 | 2 | 84 | 732 | 98 | 0 | 0 | 0 | 916 |
| 60 | 3 | 3 | 1 | 63 | 2509 | 0 | 0 | 0 | 0 | 2579 |
| TOTALS | 4349 | 10707 | 17786 | 34295 | 140458 | 54034 | 26037 | 6475 | 1259 | 295400 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%)
LA BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 17.5609 | 0.6655 | 0.2708 | 0.0884 | 0.0271 |
| 1 | 0.0 | 0.0 | 0.0 | 0.7001 | 0.8101 | 0.2881 | 0.3040 | 0.1303 | 0.0311 |
| 2 | 0.0 | 0.0 | 0.1770 | 0.4441 | 0.3409 | 0.2129 | 0.2556 | 0.1412 | 0.0454 |
| 3 | 0.0 | 0.0460 | 0.3104 | 0.2217 | 0.2918 | 0.2014 | 0.2387 | 0.1544 | 0.0430 |
| 4 | 0.0139 | 0.1324 | 0.2434 | 0.1537 | 0.2894 | 0.1882 | 0.2478 | 0.1845 | 0.0389 |
| 5 | 0.0244 | 0.1645 | 0.2075 | 0.1371 | 0.2603 | 0.1814 | 0.2292 | 0.1740 | 0.0345 |
| 6 | 0.0515 | 0.1913 | 0.1767 | 0.1388 | 0.2197 | 0.1930 | 0.2448 | 0.1747 | 0.0342 |
| 7 | 0.0667 | 0.1818 | 0.1530 | 0.1439 | 0.2241 | 0.1903 | 0.2833 | 0.1672 | 0.0261 |
| 8 | 0.0985 | 0.1588 | 0.1669 | 0.1666 | 0.2461 | 0.2126 | 0.2786 | 0.1490 | 0.0274 |
| 9 | 0.0975 | 0.1672 | 0.1777 | 0.1693 | 0.2404 | 0.2580 | 0.3148 | 0.1429 | 0.0152 |
| 10 | 0.0887 | 0.1625 | 0.1628 | 0.1801 | 0.3629 | 0.2773 | 0.3450 | 0.1090 | 0.0112 |
| 11 | 0.0944 | 0.1571 | 0.1926 | 0.1882 | 0.3087 | 0.2901 | 0.3788 | 0.0948 | 0.0108 |
| 12 | 0.0890 | 0.1571 | 0.1882 | 0.2224 | 0.3351 | 0.3406 | 0.4181 | 0.0589 | 0.0108 |
| 13 | 0.0924 | 0.1669 | 0.1886 | 0.2417 | 0.4059 | 0.4587 | 0.3287 | 0.0481 | 0.0078 |
| 14 | 0.0809 | 0.1561 | 0.2018 | 0.2776 | 1.0450 | 0.5867 | 0.3395 | 0.0342 | 0.0102 |
| 15 | 0.0745 | 0.1412 | 0.2058 | 0.2387 | 0.7018 | 0.4438 | 0.3829 | 0.0589 | 0.0112 |
| 16 | 0.0731 | 0.1435 | 0.2095 | 0.2295 | 0.3866 | 0.3778 | 0.3687 | 0.0515 | 0.0105 |
| 17 | 0.0752 | 0.1425 | 0.2163 | 0.2664 | 0.5105 | 0.3954 | 0.3761 | 0.0487 | 0.0108 |
| 18 | 0.0569 | 0.1313 | 0.1974 | 0.2610 | 0.3741 | 0.4015 | 0.2935 | 0.0457 | 0.0088 |
| 19 | 0.0420 | 0.1175 | 0.1858 | 0.2793 | 0.4008 | 0.4377 | 0.3037 | 0.0410 | 0.0071 |
| 20 | 0.0440 | 0.1283 | 0.1713 | 0.2664 | 0.4631 | 0.4336 | 0.3280 | 0.0325 | 0.0027 |
| 21 | 0.0416 | 0.1049 | 0.1693 | 0.2820 | 0.5311 | 0.4678 | 0.2905 | 0.0200 | 0.0007 |
| 22 | 0.0345 | 0.0955 | 0.1730 | 0.3118 | 0.4980 | 0.5298 | 0.2241 | 0.0081 | 0.0003 |
| 23 | 0.0234 | 0.0951 | 0.1594 | 0.3128 | 0.5240 | 0.6158 | 0.1638 | 0.0047 | 0.0003 |
| 24 | 0.0318 | 0.0850 | 0.1449 | 0.2861 | 0.9425 | 0.6435 | 0.1767 | 0.0071 | 0.0 |
| 25 | 0.0322 | 0.0731 | 0.1449 | 0.2732 | 1.0091 | 0.6144 | 0.1459 | 0.0044 | 0.0 |
| 26 | 0.0203 | 0.0545 | 0.1385 | 0.2661 | 0.5146 | 0.6012 | 0.1070 | 0.0027 | 0.0 |
| 27 | 0.0132 | 0.0640 | 0.1378 | 0.2725 | 0.5359 | 0.5701 | 0.1202 | 0.0034 | 0.0 |
| 28 | 0.0139 | 0.0599 | 0.1057 | 0.2637 | 0.6852 | 0.5362 | 0.1280 | 0.0024 | 0.0 |
| 29 | 0.0203 | 0.0423 | 0.1080 | 0.2742 | 0.6899 | 0.5291 | 0.1320 | 0.0030 | 0.0 |
| 30 | 0.0129 | 0.0396 | 0.0972 | 0.3067 | 0.7045 | 0.5721 | 0.1131 | 0.0027 | 0.0 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%) (CONTINUED)
LA BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 0.0068 | 0.0369 | 0.1002 | 0.3409 | 0.6418 | 0.5785 | 0.0958 | 0.0007 | 0.0 |
| 32 | 0.0095 | 0.0328 | 0.0951 | 0.3788 | 0.7116 | 0.5237 | 0.0684 | 0.0003 | 0.0 |
| 33 | 0.0095 | 0.0335 | 0.0762 | 0.3345 | 0.7492 | 0.4665 | 0.0603 | 0.0014 | 0.0 |
| 34 | 0.0047 | 0.0186 | 0.0643 | 0.2684 | 0.6225 | 0.4374 | 0.1083 | 0.0014 | 0.0 |
| 35 | 0.0024 | 0.0203 | 0.0718 | 0.2590 | 0.5467 | 0.3957 | 0.1168 | 0.0 | 0.0 |
| 36 | 0.0044 | 0.0156 | 0.1087 | 0.2593 | 0.4705 | 0.3294 | 0.0586 | 0.0 | 0.0 |
| 37 | 0.0037 | 0.0247 | 0.0988 | 0.2045 | 0.5030 | 0.2786 | 0.0487 | 0.0 | 0.0 |
| 38 | 0.0041 | 0.0230 | 0.0531 | 0.1869 | 0.5982 | 0.2488 | 0.0403 | 0.0 | 0.0 |
| 39 | 0.0047 | 0.0125 | 0.0403 | 0.1818 | 0.5650 | 0.2437 | 0.0383 | 0.0 | 0.0 |
| 40 | 0.0014 | 0.0064 | 0.0427 | 0.1730 | 0.6517 | 0.2275 | 0.0108 | 0.0 | 0.0 |
| 41 | 0.0003 | 0.0085 | 0.0393 | 0.1249 | 0.7536 | 0.1578 | 0.0051 | 0.0 | 0.0 |
| 42 | 0.0014 | 0.0071 | 0.0213 | 0.0772 | 0.3016 | 0.1242 | 0.0044 | 0.0 | 0.0 |
| 43 | 0.0014 | 0.0037 | 0.0152 | 0.0728 | 0.2668 | 0.1307 | 0.0051 | 0.0 | 0.0 |
| 44 | 0.0007 | 0.0027 | 0.0142 | 0.0724 | 0.2515 | 0.1107 | 0.0041 | 0.0 | 0.0 |
| 45 | 0.0010 | 0.0030 | 0.0115 | 0.0653 | 0.2360 | 0.0968 | 0.0003 | 0.0 | 0.0 |
| 46 | 0.0003 | 0.0024 | 0.0112 | 0.0525 | 0.2495 | 0.0978 | 0.0027 | 0.0 | 0.0 |
| 47 | 0.0003 | 0.0014 | 0.0081 | 0.0592 | 0.2668 | 0.1022 | 0.0044 | 0.0 | 0.0 |
| 48 | 0.0014 | 0.0030 | 0.0068 | 0.0660 | 0.2756 | 0.1056 | 0.0020 | 0.0 | 0.0 |
| 49 | 0.0014 | 0.0020 | 0.0047 | 0.0623 | 0.3524 | 0.0894 | 0.0003 | 0.0 | 0.0 |
| 50 | 0.0010 | 0.0007 | 0.0051 | 0.0606 | 0.3839 | 0.0928 | 0.0017 | 0.0 | 0.0 |
| 51 | 0.0010 | 0.0007 | 0.0024 | 0.0579 | 0.4736 | 0.1019 | 0.0010 | 0.0 | 0.0 |
| 52 | 0.0007 | 0.0003 | 0.0034 | 0.0701 | 0.5460 | 0.1107 | 0.0020 | 0.0 | 0.0 |
| 53 | 0.0003 | 0.0003 | 0.0017 | 0.0758 | 0.6283 | 0.1070 | 0.0010 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0014 | 0.0024 | 0.0765 | 0.6693 | 0.0911 | 0.0007 | 0.0 | 0.0 |
| 55 | 0.0003 | 0.0007 | 0.0014 | 0.0555 | 0.7075 | 0.0982 | 0.0007 | 0.0 | 0.0 |
| 56 | 0.0003 | 0.0007 | 0.0017 | 0.0603 | 0.6581 | 0.0809 | 0.0003 | 0.0 | 0.0 |
| 57 | 0.0007 | 0.0003 | 0.0014 | 0.0501 | 0.5596 | 0.0667 | 0.0003 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0003 | 0.0017 | 0.0379 | 0.3981 | 0.0498 | 0.0 | 0.0 | 0.0 |
| 59 | 0.0 | 0.0 | 0.0007 | 0.0284 | 0.2478 | 0.0332 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0010 | 0.0010 | 0.0003 | 0.0213 | 0.8494 | 0.0 | 0.0 | 0.0 | 0.0 |

TRANSITION-PROBABILITY MATRIX
LA BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9435 | 0.9792 | 0.9938 | 0.9985 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.3093 | 0.6671 | 0.7944 | 0.9287 | 0.9862 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.1055 | 0.3841 | 0.5949 | 0.7266 | 0.8847 | 0.9719 | 1.0000 |
| 3 | 0.0 | 0.0305 | 0.2365 | 0.3836 | 0.5771 | 0.7108 | 0.8691 | 0.9715 | 1.0000 |
| 4 | 0.0093 | 0.0980 | 0.2611 | 0.3641 | 0.5581 | 0.6842 | 0.8503 | 0.9739 | 1.0000 |
| 5 | 0.0172 | 0.1337 | 0.2805 | 0.3776 | 0.5618 | 0.6902 | 0.8524 | 0.9756 | 1.0000 |
| 6 | 0.0361 | 0.1704 | 0.2944 | 0.3919 | 0.5461 | 0.6816 | 0.8534 | 0.9760 | 1.0000 |
| 7 | 0.0464 | 0.1730 | 0.2795 | 0.3797 | 0.5357 | 0.6682 | 0.8654 | 0.9819 | 1.0000 |
| 8 | 0.0655 | 0.1710 | 0.2820 | 0.3927 | 0.5563 | 0.6976 | 0.8828 | 0.9818 | 1.0000 |
| 9 | 0.0616 | 0.1672 | 0.2755 | 0.3864 | 0.5383 | 0.7012 | 0.9001 | 0.9904 | 1.0000 |
| 10 | 0.0522 | 0.1478 | 0.2436 | 0.3496 | 0.5631 | 0.7263 | 0.9293 | 0.9934 | 1.0000 |
| 11 | 0.0551 | 0.1466 | 0.2589 | 0.3686 | 0.5485 | 0.7176 | 0.9384 | 0.9937 | 1.0000 |
| 12 | 0.0489 | 0.1352 | 0.2386 | 0.3608 | 0.5449 | 0.7320 | 0.9617 | 0.9940 | 1.0000 |
| 13 | 0.0477 | 0.1338 | 0.2310 | 0.3557 | 0.5650 | 0.8016 | 0.9712 | 0.9960 | 1.0000 |
| 14 | 0.0296 | 0.0867 | 0.1606 | 0.2622 | 0.6447 | 0.8595 | 0.9838 | 0.9963 | 1.0000 |
| 15 | 0.0330 | 0.0955 | 0.1866 | 0.2923 | 0.6030 | 0.7995 | 0.9690 | 0.9951 | 1.0000 |
| 16 | 0.0395 | 0.1171 | 0.2303 | 0.3543 | 0.5632 | 0.7673 | 0.9665 | 0.9943 | 1.0000 |
| 17 | 0.0368 | 0.1066 | 0.2125 | 0.3430 | 0.5930 | 0.7866 | 0.9708 | 0.9947 | 1.0000 |
| 18 | 0.0321 | 0.1063 | 0.2178 | 0.3653 | 0.5766 | 0.8034 | 0.9692 | 0.9950 | 1.0000 |
| 19 | 0.0231 | 0.0879 | 0.1903 | 0.3442 | 0.5650 | 0.8062 | 0.9735 | 0.9961 | 1.0000 |
| 20 | 0.0235 | 0.0921 | 0.1837 | 0.3262 | 0.5739 | 0.8058 | 0.9812 | 0.9986 | 1.0000 |
| 21 | 0.0218 | 0.0768 | 0.1655 | 0.3133 | 0.5917 | 0.8369 | 0.9892 | 0.9996 | 1.0000 |
| 22 | 0.0184 | 0.0693 | 0.1616 | 0.3279 | 0.5934 | 0.8760 | 0.9955 | 0.9998 | 1.0000 |
| 23 | 0.0123 | 0.0624 | 0.1463 | 0.3110 | 0.5869 | 0.9111 | 0.9973 | 0.9998 | 1.0000 |
| 24 | 0.0137 | 0.0504 | 0.1129 | 0.2363 | 0.6430 | 0.9207 | 0.9969 | 1.0000 | 1.0000 |
| 25 | 0.0140 | 0.0458 | 0.1089 | 0.2278 | 0.6671 | 0.9346 | 0.9981 | 1.0000 | 1.0000 |
| 26 | 0.0119 | 0.0439 | 0.1251 | 0.2812 | 0.5830 | 0.9357 | 0.9984 | 1.0000 | 1.0000 |
| 27 | 0.0077 | 0.0450 | 0.1252 | 0.2839 | 0.5960 | 0.9280 | 0.9980 | 1.0000 | 1.0000 |
| 28 | 0.0077 | 0.0410 | 0.1020 | 0.2486 | 0.6295 | 0.9275 | 0.9987 | 1.0000 | 1.0000 |
| 29 | 0.0113 | 0.0348 | 0.0948 | 0.2473 | 0.6308 | 0.9249 | 0.9983 | 1.0000 | 1.0000 |
| 30 | 0.0070 | 0.0284 | 0.0809 | 0.2468 | 0.6279 | 0.9374 | 0.9985 | 1.0000 | 1.0000 |
| 31 | 0.0038 | 0.0242 | 0.0799 | 0.2691 | 0.6253 | 0.9464 | 0.9996 | 1.0000 | 1.0000 |

TRANSITION-PROBABILITY MATRIX (CONTINUED)
LA BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0052 | 0.0232 | 0.0755 | 0.2836 | 0.6745 | 0.9622 | 0.9998 | 1.0000 | 1.0000 |
| 33 | 0.0055 | 0.0248 | 0.0688 | 0.2621 | 0.6949 | 0.9644 | 0.9992 | 1.0000 | 1.0000 |
| 34 | 0.0031 | 0.0153 | 0.0575 | 0.2334 | 0.6414 | 0.9281 | 0.9991 | 1.0000 | 1.0000 |
| 35 | 0.0017 | 0.0161 | 0.0669 | 0.2502 | 0.6372 | 0.9173 | 1.0000 | 1.0000 | 1.0000 |
| 36 | 0.0035 | 0.0160 | 0.1032 | 0.3112 | 0.6888 | 0.9530 | 1.0000 | 1.0000 | 1.0000 |
| 37 | 0.0032 | 0.0245 | 0.1055 | 0.2855 | 0.7183 | 0.9581 | 1.0000 | 1.0000 | 1.0000 |
| 38 | 0.0035 | 0.0235 | 0.0655 | 0.2314 | 0.7496 | 0.9651 | 1.0000 | 1.0000 | 1.0000 |
| 39 | 0.0044 | 0.0159 | 0.0530 | 0.2203 | 0.7404 | 0.9648 | 1.0000 | 1.0000 | 1.0000 |
| 40 | 0.0012 | 0.0070 | 0.0453 | 0.2007 | 0.7860 | 0.9903 | 1.0000 | 1.0000 | 1.0000 |
| 41 | 0.0003 | 0.0081 | 0.0441 | 0.1588 | 0.8505 | 0.9953 | 1.0000 | 1.0000 | 1.0000 |
| 42 | 0.0025 | 0.0158 | 0.0555 | 0.1991 | 0.7606 | 0.9918 | 1.0000 | 1.0000 | 1.0000 |
| 43 | 0.0027 | 0.0102 | 0.0410 | 0.1878 | 0.7261 | 0.9898 | 1.0000 | 1.0000 | 1.0000 |
| 44 | 0.0015 | 0.0074 | 0.0386 | 0.1973 | 0.7485 | 0.9911 | 1.0000 | 1.0000 | 1.0000 |
| 45 | 0.0025 | 0.0098 | 0.0376 | 0.1954 | 0.7653 | 0.9992 | 1.0000 | 1.0000 | 1.0000 |
| 46 | 0.0008 | 0.0065 | 0.0333 | 0.1593 | 0.7585 | 0.9935 | 1.0000 | 1.0000 | 1.0000 |
| 47 | 0.0008 | 0.0038 | 0.0222 | 0.1561 | 0.7590 | 0.9901 | 1.0000 | 1.0000 | 1.0000 |
| 48 | 0.0029 | 0.0096 | 0.0243 | 0.1676 | 0.7662 | 0.9956 | 1.0000 | 1.0000 | 1.0000 |
| 49 | 0.0026 | 0.0066 | 0.0159 | 0.1374 | 0.8250 | 0.9993 | 1.0000 | 1.0000 | 1.0000 |
| 50 | 0.0019 | 0.0031 | 0.0124 | 0.1234 | 0.8269 | 0.9969 | 1.0000 | 1.0000 | 1.0000 |
| 51 | 0.0016 | 0.0027 | 0.0064 | 0.0970 | 0.8388 | 0.9984 | 1.0000 | 1.0000 | 1.0000 |
| 52 | 0.0009 | 0.0014 | 0.0060 | 0.1016 | 0.8463 | 0.9972 | 1.0000 | 1.0000 | 1.0000 |
| 53 | 0.0004 | 0.0008 | 0.0029 | 0.0960 | 0.8674 | 0.9988 | 1.0000 | 1.0000 | 1.0000 |
| 54 | 0.0 | 0.0016 | 0.0044 | 0.0954 | 0.8909 | 0.9992 | 1.0000 | 1.0000 | 1.0000 |
| 55 | 0.0004 | 0.0012 | 0.0027 | 0.0670 | 0.8856 | 0.9992 | 1.0000 | 1.0000 | 1.0000 |
| 56 | 0.0004 | 0.0013 | 0.0034 | 0.0785 | 0.8987 | 0.9996 | 1.0000 | 1.0000 | 1.0000 |
| 57 | 0.0010 | 0.0015 | 0.0035 | 0.0773 | 0.9013 | 0.9995 | 1.0000 | 1.0000 | 1.0000 |
| 58 | 0.0 | 0.0007 | 0.0042 | 0.0819 | 0.8980 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 59 | 0.0 | 0.0 | 0.0022 | 0.0939 | 0.8930 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 60 | 0.0012 | 0.0023 | 0.0027 | 0.0271 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

LA BUSES: FWY & NFWY COMPOSITE

THE STATISTICS FOR CYCLE 2041393295 ARE AS FOLLOWS:

KOLMOGOROV-SMIRNOV DIFFERENCES:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX: | 0.0341 | 0.114 |
| CRUISE: | 0.0485 | 0.129 |
| ACCEL: | 0.0484 | 0.382 |
| DECEL: | 0.0578 | 0.278 |
| SPEED: | 0.0537 | 0.002 |
| DEL SPD: | 0.0127 | 0.989 |

SUMMARY PERCENTAGE MEASURES:

| | INPUT | CYCLE |
|---|---|---|
| IDLE: | 17.56 | 17.48 |
| CRUISE: | 29.99 | 29.92 * |
| ACCEL: | 29.72 | 28.62 |
| DECEL: | 22.73 | 23.98 |

AVERAGE SPEED FOR INPUT MATRIX: 20.00 MPH

AVERAGE SPEED FOR CYCLE: 20.65 MPH

CYCLE DISTANCE: 6.10 MILES

CYCLE DURATION: 17.71 MINUTES

* THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE.

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | |
| 1 | 0 | 51 | 12 | 101 | 10 | 151 | 17 |
| 2 | 0 | 52 | 12 | 102 | 9 | 152 | 18 |
| 3 | 0 | 53 | 15 | 103 | 9 | 153 | 15 |
| 4 | 0 | 54 | 15 | 104 | 6 | 154 | 12 |
| 5 | 0 | 55 | 13 | 105 | 3 | 155 | 14 |
| 6 | 1 | 56 | 14 | 106 | 7 | 156 | 15 |
| 7 | 1 | 57 | 16 | 107 | 8 | 157 | 15 |
| 8 | 0 | 58 | 15 | 108 | 8 | 158 | 16 |
| 9 | 0 | 59 | 13 | 109 | 4 | 159 | 16 |
| 10 | 0 | 60 | 14 | 110 | 4 | 160 | 14 |
| 11 | 0 | 61 | 12 | 111 | 3 | 161 | 15 |
| 12 | 0 | 62 | 12 | 112 | 6 | 162 | 15 |
| 13 | 0 | 63 | 8 | 113 | 8 | 163 | 17 |
| 14 | 0 | 64 | 9 | 114 | 7 | 164 | 17 |
| 15 | 0 | 65 | 10 | 115 | 10 | 165 | 18 |
| 16 | 0 | 66 | 12 | 116 | 6 | 166 | 18 |
| 17 | 0 | 67 | 11 | 117 | 8 | 167 | 19 |
| 18 | 0 | 68 | 11 | 118 | 5 | 168 | 21 |
| 19 | 0 | 69 | 14 | 119 | 7 | 169 | 21 |
| 20 | 0 | 70 | 12 | 120 | 9 | 170 | 21 |
| 21 | 0 | 71 | 10 | 121 | 6 | 171 | 23 |
| 22 | 0 | 72 | 12 | 122 | 8 | 172 | 21 |
| 23 | 0 | 73 | 10 | 123 | 6 | 173 | 23 |
| 24 | 0 | 74 | 12 | 124 | 9 | 174 | 22 |
| 25 | 1 | 75 | 9 | 125 | 10 | 175 | 21 |
| 26 | 1 | 76 | 6 | 126 | 10 | 176 | 24 |
| 27 | 1 | 77 | 6 | 127 | 12 | 177 | 26 |
| 28 | 1 | 78 | 9 | 128 | 13 | 178 | 27 |
| 29 | 3 | 79 | 12 | 129 | 17 | 179 | 25 |
| 30 | 2 | 80 | 15 | 130 | 17 | 180 | 25 |
| 31 | 2 | 81 | 14 | 131 | 16 | 181 | 25 |
| 32 | 1 | 82 | 14 | 132 | 19 | 182 | 25 |
| 33 | 2 | 83 | 12 | 133 | 16 | 183 | 25 |
| 34 | 5 | 84 | 14 | 134 | 16 | 184 | 23 |
| 35 | 8 | 85 | 14 | 135 | 13 | 185 | 24 |
| 36 | 6 | 86 | 15 | 136 | 14 | 186 | 24 |
| 37 | 6 | 87 | 11 | 137 | 15 | 187 | 22 |
| 38 | 8 | 88 | 8 | 138 | 14 | 188 | 23 |
| 39 | 10 | 89 | 9 | 139 | 14 | 189 | 24 |
| 40 | 12 | 90 | 10 | 140 | 14 | 190 | 24 |
| 41 | 13 | 91 | 7 | 141 | 13 | 191 | 24 |
| 42 | 12 | 92 | 6 | 142 | 11 | 192 | 24 |
| 43 | 12 | 93 | 8 | 143 | 13 | 193 | 24 |
| 44 | 13 | 94 | 10 | 144 | 14 | 194 | 23 |
| 45 | 10 | 95 | 13 | 145 | 14 | 195 | 23 |
| 46 | 10 | 96 | 10 | 146 | 14 | 196 | 24 |
| 47 | 11 | 97 | 12 | 147 | 15 | 197 | 24 |
| 48 | 11 | 98 | 14 | 148 | 15 | 198 | 22 |
| 49 | 11 | 99 | 11 | 149 | 17 | 199 | 25 |
| 50 | 12 | 100 | 9 | 150 | 18 | 200 | 25 |

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 25 | 251 | 23 | 301 | 25 | 351 | 14 |
| 202 | 26 | 252 | 23 | 302 | 25 | 352 | 16 |
| 203 | 27 | 253 | 20 | 303 | 25 | 353 | 16 |
| 204 | 27 | 254 | 19 | 304 | 26 | 354 | 14 |
| 205 | 28 | 255 | 19 | 305 | 22 | 355 | 14 |
| 206 | 25 | 256 | 20 | 306 | 23 | 356 | 16 |
| 207 | 22 | 257 | 19 | 307 | 21 | 357 | 15 |
| 208 | 23 | 258 | 17 | 308 | 20 | 358 | 15 |
| 209 | 24 | 259 | 17 | 309 | 17 | 359 | 15 |
| 210 | 24 | 260 | 16 | 310 | 19 | 360 | 16 |
| 211 | 24 | 261 | 17 | 311 | 18 | 361 | 17 |
| 212 | 24 | 262 | 16 | 312 | 15 | 362 | 15 |
| 213 | 21 | 263 | 16 | 313 | 13 | 363 | 15 |
| 214 | 22 | 264 | 13 | 314 | 13 | 364 | 15 |
| 215 | 24 | 265 | 14 | 315 | 13 | 365 | 18 |
| 216 | 26 | 266 | 14 | 316 | 16 | 366 | 17 |
| 217 | 26 | 267 | 14 | 317 | 17 | 367 | 15 |
| 218 | 26 | 268 | 14 | 318 | 19 | 368 | 16 |
| 219 | 26 | 269 | 14 | 319 | 19 | 369 | 17 |
| 220 | 28 | 270 | 14 | 320 | 17 | 370 | 18 |
| 221 | 30 | 271 | 14 | 321 | 13 | 371 | 21 |
| 222 | 32 | 272 | 15 | 322 | 15 | 372 | 23 |
| 223 | 31 | 273 | 14 | 323 | 15 | 373 | 24 |
| 224 | 31 | 274 | 14 | 324 | 12 | 374 | 24 |
| 225 | 31 | 275 | 14 | 325 | 11 | 375 | 23 |
| 226 | 27 | 276 | 15 | 326 | 9 | 376 | 23 |
| 227 | 28 | 277 | 15 | 327 | 8 | 377 | 21 |
| 228 | 29 | 278 | 15 | 328 | 9 | 378 | 21 |
| 229 | 29 | 279 | 17 | 329 | 9 | 379 | 20 |
| 230 | 28 | 280 | 16 | 330 | 6 | 380 | 23 |
| 231 | 25 | 281 | 13 | 331 | 8 | 381 | 22 |
| 232 | 26 | 282 | 13 | 332 | 12 | 382 | 22 |
| 233 | 25 | 283 | 15 | 333 | 12 | 383 | 22 |
| 234 | 26 | 284 | 15 | 334 | 14 | 384 | 19 |
| 235 | 27 | 285 | 18 | 335 | 13 | 385 | 17 |
| 236 | 25 | 286 | 19 | 336 | 10 | 386 | 17 |
| 237 | 26 | 287 | 21 | 337 | 10 | 387 | 18 |
| 238 | 26 | 288 | 21 | 338 | 12 | 388 | 20 |
| 239 | 25 | 289 | 21 | 339 | 14 | 389 | 19 |
| 240 | 25 | 290 | 22 | 340 | 14 | 390 | 16 |
| 241 | 23 | 291 | 20 | 341 | 15 | 391 | 13 |
| 242 | 25 | 292 | 21 | 342 | 17 | 392 | 15 |
| 243 | 25 | 293 | 21 | 343 | 16 | 393 | 14 |
| 244 | 27 | 294 | 22 | 344 | 12 | 394 | 13 |
| 245 | 26 | 295 | 24 | 345 | 9 | 395 | 9 |
| 246 | 27 | 296 | 25 | 346 | 10 | 396 | 7 |
| 247 | 25 | 297 | 25 | 347 | 12 | 397 | 7 |
| 248 | 23 | 298 | 27 | 348 | 12 | 398 | 10 |
| 249 | 23 | 299 | 25 | 349 | 11 | 399 | 6 |
| 250 | 23 | 300 | 25 | 350 | 12 | 400 | 8 |

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 401 | 6 | 451 | 0 | 501 | 0 | 551 | 3 |
| 402 | 9 | 452 | 1 | 502 | 0 | 552 | 4 |
| 403 | 10 | 453 | 1 | 503 | 0 | 553 | 1 |
| 404 | 8 | 454 | 0 | 504 | 0 | 554 | 1 |
| 405 | 8 | 455 | 0 | 505 | 0 | 555 | 1 |
| 406 | 7 | 456 | 0 | 506 | 0 | 556 | 0 |
| 407 | 5 | 457 | 0 | 507 | 0 | 557 | 0 |
| 408 | 6 | 458 | 0 | 508 | 0 | 558 | 0 |
| 409 | 8 | 459 | 0 | 509 | 0 | 559 | 0 |
| 410 | 9 | 460 | 0 | 510 | 0 | 560 | 0 |
| 411 | 5 | 461 | 0 | 511 | 0 | 561 | 0 |
| 412 | 2 | 462 | 0 | 512 | 0 | 562 | 0 |
| 413 | 5 | 463 | 0 | 513 | 0 | 563 | 0 |
| 414 | 2 | 464 | 0 | 514 | 0 | 564 | 0 |
| 415 | 1 | 465 | 0 | 515 | 0 | 565 | 0 |
| 416 | 0 | 466 | 0 | 516 | 0 | 566 | 0 |
| 417 | 0 | 467 | 0 | 517 | 0 | 567 | 0 |
| 418 | 0 | 468 | 0 | 518 | 0 | 568 | 0 |
| 419 | 0 | 469 | 0 | 519 | 0 | 569 | 0 |
| 420 | 0 | 470 | 0 | 520 | 0 | 570 | 0 |
| 421 | 0 | 471 | 0 | 521 | 1 | 571 | 0 |
| 422 | 0 | 472 | 0 | 522 | 1 | 572 | 0 |
| 423 | 0 | 473 | 0 | 523 | 0 | 573 | 0 |
| 424 | 0 | 474 | 0 | 524 | 0 | 574 | 0 |
| 425 | 0 | 475 | 0 | 525 | 0 | 575 | 0 |
| 426 | 0 | 476 | 0 | 526 | 0 | 576 | 0 |
| 427 | 0 | 477 | 0 | 527 | 0 | 577 | 0 |
| 428 | 0 | 478 | 0 | 528 | 0 | 578 | 0 |
| 429 | 0 | 479 | 0 | 529 | 0 | 579 | 0 |
| 430 | 0 | 480 | 0 | 530 | 0 | 580 | 0 |
| 431 | 0 | 481 | 0 | 531 | 0 | 581 | 0 |
| 432 | 0 | 482 | 0 | 532 | 1 | 582 | 0 |
| 433 | 0 | 483 | 0 | 533 | 0 | 583 | 0 |
| 434 | 0 | 484 | 0 | 534 | 0 | 584 | 0 |
| 435 | 0 | 485 | 0 | 535 | 0 | 585 | 0 |
| 436 | 0 | 486 | 0 | 536 | 0 | 586 | 0 |
| 437 | 0 | 487 | 0 | 537 | 0 | 587 | 0 |
| 438 | 0 | 488 | 0 | 538 | 3 | 588 | 0 |
| 439 | 0 | 489 | 0 | 539 | 1 | 589 | 0 |
| 440 | 0 | 490 | 0 | 540 | 1 | 590 | 0 |
| 441 | 0 | 491 | 0 | 541 | 3 | 591 | 0 |
| 442 | 0 | 492 | 0 | 542 | 2 | 592 | 3 |
| 443 | 0 | 493 | 0 | 543 | 2 | 593 | 6 |
| 444 | 0 | 494 | 0 | 544 | 4 | 594 | 8 |
| 445 | 0 | 495 | 1 | 545 | 2 | 595 | 4 |
| 446 | 0 | 496 | 3 | 546 | 1 | 596 | 2 |
| 447 | 0 | 497 | 2 | 547 | 3 | 597 | 2 |
| 448 | 0 | 498 | 1 | 548 | 5 | 598 | 1 |
| 449 | 0 | 499 | 0 | 549 | 2 | 599 | 1 |
| 450 | 0 | 500 | 0 | 550 | 3 | 600 | 1 |

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 601 | 4 | 651 | 14 | 701 | 24 | 751 | 31 |
| 602 | 5 | 652 | 15 | 702 | 23 | 752 | 28 |
| 603 | 5 | 653 | 14 | 703 | 22 | 753 | 29 |
| 604 | 2 | 654 | 15 | 704 | 21 | 754 | 30 |
| 605 | 4 | 655 | 14 | 705 | 20 | 755 | 31 |
| 606 | 1 | 656 | 15 | 706 | 21 | 756 | 30 |
| 607 | 0 | 657 | 14 | 707 | 20 | 757 | 30 |
| 608 | 0 | 658 | 14 | 708 | 21 | 758 | 31 |
| 609 | 0 | 659 | 14 | 709 | 21 | 759 | 30 |
| 610 | 0 | 660 | 12 | 710 | 21 | 760 | 31 |
| 611 | 0 | 661 | 12 | 711 | 20 | 761 | 31 |
| 612 | 0 | 662 | 13 | 712 | 21 | 762 | 33 |
| 613 | 0 | 663 | 11 | 713 | 19 | 763 | 34 |
| 614 | 0 | 664 | 13 | 714 | 16 | 764 | 34 |
| 615 | 0 | 665 | 15 | 715 | 19 | 765 | 33 |
| 616 | 0 | 666 | 15 | 716 | 20 | 766 | 34 |
| 617 | 0 | 667 | 14 | 717 | 22 | 767 | 33 |
| 618 | 0 | 668 | 14 | 718 | 23 | 768 | 35 |
| 619 | 0 | 669 | 14 | 719 | 23 | 769 | 36 |
| 620 | 1 | 670 | 13 | 720 | 25 | 770 | 36 |
| 621 | 0 | 671 | 15 | 721 | 25 | 771 | 37 |
| 622 | 0 | 672 | 12 | 722 | 25 | 772 | 38 |
| 623 | 0 | 673 | 8 | 723 | 26 | 773 | 38 |
| 624 | 0 | 674 | 9 | 724 | 27 | 774 | 38 |
| 625 | 0 | 675 | 10 | 725 | 28 | 775 | 38 |
| 626 | 0 | 676 | 12 | 726 | 29 | 776 | 35 |
| 627 | 0 | 677 | 14 | 727 | 29 | 777 | 34 |
| 628 | 0 | 678 | 14 | 728 | 30 | 778 | 35 |
| 629 | 2 | 679 | 16 | 729 | 30 | 779 | 36 |
| 630 | 0 | 680 | 13 | 730 | 31 | 780 | 37 |
| 631 | 0 | 681 | 15 | 731 | 33 | 781 | 36 |
| 632 | 0 | 682 | 12 | 732 | 34 | 782 | 34 |
| 633 | 0 | 683 | 14 | 733 | 31 | 783 | 33 |
| 634 | 0 | 684 | 14 | 734 | 30 | 784 | 32 |
| 635 | 0 | 685 | 15 | 735 | 32 | 785 | 32 |
| 636 | 0 | 686 | 16 | 736 | 32 | 786 | 32 |
| 637 | 0 | 687 | 15 | 737 | 32 | 787 | 30 |
| 638 | 0 | 688 | 17 | 738 | 32 | 788 | 27 |
| 639 | 0 | 689 | 16 | 739 | 33 | 789 | 28 |
| 640 | 1 | 690 | 18 | 740 | 33 | 790 | 28 |
| 641 | 2 | 691 | 19 | 741 | 33 | 791 | 29 |
| 642 | 6 | 692 | 21 | 742 | 33 | 792 | 30 |
| 643 | 8 | 693 | 22 | 743 | 33 | 793 | 30 |
| 644 | 12 | 694 | 22 | 744 | 34 | 794 | 30 |
| 645 | 14 | 695 | 23 | 745 | 34 | 795 | 30 |
| 646 | 14 | 696 | 23 | 746 | 31 | 796 | 30 |
| 647 | 14 | 697 | 25 | 747 | 31 | 797 | 31 |
| 648 | 14 | 698 | 25 | 748 | 31 | 798 | 31 |
| 649 | 14 | 699 | 24 | 749 | 30 | 799 | 29 |
| 650 | 13 | 700 | 25 | 750 | 30 | 800 | 29 |

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 801 | 27 | 851 | 25 | 901 | 30 | 951 | 33 |
| 802 | 27 | 852 | 26 | 902 | 30 | 952 | 33 |
| 803 | 28 | 853 | 25 | 903 | 28 | 953 | 35 |
| 804 | 30 | 854 | 25 | 904 | 28 | 954 | 35 |
| 805 | 31 | 855 | 26 | 905 | 29 | 955 | 36 |
| 806 | 32 | 856 | 27 | 906 | 30 | 956 | 36 |
| 807 | 33 | 857 | 27 | 907 | 31 | 957 | 37 |
| 808 | 32 | 858 | 26 | 908 | 32 | 958 | 38 |
| 809 | 31 | 859 | 26 | 909 | 32 | 959 | 38 |
| 810 | 31 | 860 | 27 | 910 | 33 | 960 | 38 |
| 811 | 30 | 861 | 27 | 911 | 31 | 961 | 38 |
| 812 | 29 | 862 | 27 | 912 | 31 | 962 | 38 |
| 813 | 30 | 863 | 27 | 913 | 32 | 963 | 39 |
| 814 | 30 | 864 | 26 | 914 | 31 | 964 | 39 |
| 815 | 30 | 865 | 23 | 915 | 31 | 965 | 37 |
| 816 | 30 | 866 | 24 | 916 | 32 | 966 | 37 |
| 817 | 30 | 867 | 24 | 917 | 32 | 967 | 37 |
| 818 | 31 | 868 | 25 | 918 | 30 | 968 | 37 |
| 819 | 31 | 869 | 25 | 919 | 31 | 969 | 37 |
| 820 | 31 | 870 | 27 | 920 | 31 | 970 | 36 |
| 821 | 31 | 871 | 28 | 921 | 32 | 971 | 35 |
| 822 | 32 | 872 | 28 | 922 | 31 | 972 | 34 |
| 823 | 32 | 873 | 28 | 923 | 32 | 973 | 35 |
| 824 | 31 | 874 | 29 | 924 | 31 | 974 | 35 |
| 825 | 31 | 875 | 30 | 925 | 30 | 975 | 33 |
| 826 | 30 | 876 | 31 | 926 | 31 | 976 | 33 |
| 827 | 31 | 877 | 32 | 927 | 31 | 977 | 34 |
| 828 | 31 | 878 | 32 | 928 | 29 | 978 | 34 |
| 829 | 32 | 879 | 31 | 929 | 30 | 979 | 34 |
| 830 | 32 | 880 | 31 | 930 | 30 | 980 | 33 |
| 831 | 33 | 881 | 31 | 931 | 29 | 981 | 33 |
| 832 | 32 | 882 | 32 | 932 | 28 | 982 | 33 |
| 833 | 32 | 883 | 32 | 933 | 29 | 983 | 32 |
| 834 | 33 | 884 | 32 | 934 | 28 | 984 | 33 |
| 835 | 33 | 885 | 32 | 935 | 28 | 985 | 33 |
| 836 | 31 | 886 | 30 | 936 | 29 | 986 | 32 |
| 837 | 32 | 887 | 30 | 937 | 30 | 987 | 32 |
| 838 | 31 | 888 | 30 | 938 | 31 | 988 | 33 |
| 839 | 31 | 889 | 29 | 939 | 32 | 989 | 32 |
| 840 | 30 | 890 | 30 | 940 | 32 | 990 | 32 |
| 841 | 29 | 891 | 31 | 941 | 32 | 991 | 32 |
| 842 | 28 | 892 | 29 | 942 | 31 | 992 | 33 |
| 843 | 28 | 893 | 28 | 943 | 31 | 993 | 35 |
| 844 | 29 | 894 | 27 | 944 | 32 | 994 | 35 |
| 845 | 30 | 895 | 28 | 945 | 33 | 995 | 35 |
| 846 | 30 | 896 | 29 | 946 | 34 | 996 | 33 |
| 847 | 28 | 897 | 29 | 947 | 33 | 997 | 31 |
| 848 | 26 | 898 | 29 | 948 | 32 | 998 | 32 |
| 849 | 24 | 899 | 27 | 949 | 33 | 999 | 33 |
| 850 | 25 | 900 | 28 | 950 | 32 | 1000 | 32 |

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 1001 | 32 | 1051 | 41 | 1101 | 51 | 1151 | 54 |
| 1002 | 33 | 1052 | 41 | 1102 | 52 | 1152 | 54 |
| 1003 | 33 | 1053 | 41 | 1103 | 52 | 1153 | 54 |
| 1004 | 33 | 1054 | 41 | 1104 | 53 | 1154 | 54 |
| 1005 | 33 | 1055 | 41 | 1105 | 53 | 1155 | 53 |
| 1006 | 34 | 1056 | 40 | 1106 | 53 | 1156 | 53 |
| 1007 | 34 | 1057 | 41 | 1107 | 53 | 1157 | 53 |
| 1008 | 34 | 1058 | 41 | 1108 | 53 | 1158 | 54 |
| 1009 | 34 | 1059 | 42 | 1109 | 53 | 1159 | 54 |
| 1010 | 34 | 1060 | 42 | 1110 | 53 | 1160 | 54 |
| 1011 | 36 | 1061 | 43 | 1111 | 53 | 1161 | 54 |
| 1012 | 36 | 1062 | 43 | 1112 | 53 | 1162 | 54 |
| 1013 | 36 | 1063 | 43 | 1113 | 53 | 1163 | 54 |
| 1014 | 35 | 1064 | 43 | 1114 | 53 | 1164 | 54 |
| 1015 | 33 | 1065 | 43 | 1115 | 53 | 1165 | 53 |
| 1016 | 34 | 1066 | 43 | 1116 | 53 | 1166 | 53 |
| 1017 | 36 | 1067 | 43 | 1117 | 53 | 1167 | 53 |
| 1018 | 36 | 1068 | 43 | 1118 | 53 | 1168 | 53 |
| 1019 | 36 | 1069 | 43 | 1119 | 52 | 1169 | 54 |
| 1020 | 37 | 1070 | 44 | 1120 | 52 | 1170 | 54 |
| 1021 | 37 | 1071 | 44 | 1121 | 53 | 1171 | 55 |
| 1022 | 37 | 1072 | 44 | 1122 | 53 | 1172 | 54 |
| 1023 | 35 | 1073 | 44 | 1123 | 53 | 1173 | 53 |
| 1024 | 37 | 1074 | 45 | 1124 | 53 | 1174 | 52 |
| 1025 | 37 | 1075 | 45 | 1125 | 53 | 1175 | 51 |
| 1026 | 37 | 1076 | 46 | 1126 | 53 | 1176 | 50 |
| 1027 | 38 | 1077 | 46 | 1127 | 53 | 1177 | 49 |
| 1028 | 39 | 1078 | 46 | 1128 | 53 | 1178 | 48 |
| 1029 | 38 | 1079 | 46 | 1129 | 53 | 1179 | 47 |
| 1030 | 38 | 1080 | 47 | 1130 | 53 | 1180 | 44 |
| 1031 | 39 | 1081 | 47 | 1131 | 53 | 1181 | 43 |
| 1032 | 40 | 1082 | 47 | 1132 | 53 | 1182 | 40 |
| 1033 | 40 | 1083 | 48 | 1133 | 53 | 1183 | 39 |
| 1034 | 41 | 1084 | 48 | 1134 | 55 | 1184 | 38 |
| 1035 | 41 | 1085 | 48 | 1135 | 55 | 1185 | 37 |
| 1036 | 42 | 1086 | 49 | 1136 | 55 | 1186 | 36 |
| 1037 | 41 | 1087 | 50 | 1137 | 55 | 1187 | 34 |
| 1038 | 41 | 1088 | 50 | 1138 | 55 | 1188 | 33 |
| 1039 | 42 | 1089 | 50 | 1139 | 55 | 1189 | 32 |
| 1040 | 42 | 1090 | 50 | 1140 | 55 | 1190 | 31 |
| 1041 | 42 | 1091 | 51 | 1141 | 55 | 1191 | 30 |
| 1042 | 40 | 1092 | 51 | 1142 | 56 | 1192 | 29 |
| 1043 | 40 | 1093 | 51 | 1143 | 56 | 1193 | 27 |
| 1044 | 40 | 1094 | 50 | 1144 | 56 | 1194 | 25 |
| 1045 | 40 | 1095 | 50 | 1145 | 56 | 1195 | 24 |
| 1046 | 39 | 1096 | 49 | 1146 | 56 | 1196 | 21 |
| 1047 | 40 | 1097 | 49 | 1147 | 56 | 1197 | 19 |
| 1048 | 41 | 1098 | 50 | 1148 | 55 | 1198 | 16 |
| 1049 | 41 | 1099 | 51 | 1149 | 55 | 1199 | 15 |
| 1050 | 41 | 1100 | 51 | 1150 | 54 | 1200 | 14 |

DRIVING SCHEDULE FOR CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 1201 | 11 | 1209 | 0 | 1217 | 0 | 1225 | 0 |
| 1202 | 9 | 1210 | 0 | 1218 | 0 | 1226 | 0 |
| 1203 | 7 | 1211 | 0 | 1219 | 0 | 1227 | 0 |
| 1204 | 6 | 1212 | 0 | 1220 | 0 | 1228 | 0 |
| 1205 | 3 | 1213 | 0 | 1221 | 0 | 1229 | 0 |
| 1206 | 1 | 1214 | 0 | 1222 | 0 | 1230 | 0 |
| 1207 | 0 | 1215 | 0 | 1223 | 0 | | |
| 1208 | 0 | 1216 | 0 | 1224 | 0 | | |

DRIVING SCHEDULE FOR
CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | | | | | | |
| 1 | 0.0 | 51 | 13.03 | 101 | 7.80 | 151 | 21.23 |
| 2 | 0.0 | 52 | 13.63 | 102 | 5.11 | 152 | 23.78 |
| 3 | 0.0 | 53 | 12.00 | 103 | 7.43 | 153 | 26.08 |
| 4 | 0.0 | 54 | 10.00 | 104 | 7.89 | 154 | 26.52 |
| 5 | 0.79 | 55 | 8.66 | 105 | 7.06 | 155 | 25.00 |
| 6 | 1.00 | 56 | 9.81 | 106 | 6.63 | 156 | 25.00 |
| 7 | 0.0 | 57 | 11.94 | 107 | 8.53 | 157 | 25.00 |
| 8 | 0.0 | 58 | 11.00 | 108 | 10.00 | 158 | 25.00 |
| 9 | 0.0 | 59 | 11.86 | 109 | 10.31 | 159 | 23.03 |
| 10 | 0.0 | 60 | 13.11 | 110 | 12.31 | 160 | 24.00 |
| 11 | 0.0 | 61 | 10.80 | 111 | 14.89 | 161 | 23.31 |
| 12 | 0.0 | 62 | 11.52 | 112 | 17.00 | 162 | 22.50 |
| 13 | 0.0 | 63 | 10.17 | 113 | 16.21 | 163 | 23.66 |
| 14 | 0.0 | 64 | 11.78 | 114 | 18.83 | 164 | 24.00 |
| 15 | 0.0 | 65 | 8.31 | 115 | 16.00 | 165 | 24.00 |
| 16 | 0.0 | 66 | 6.00 | 116 | 15.22 | 166 | 24.00 |
| 17 | 0.0 | 67 | 7.64 | 117 | 13.42 | 167 | 23.71 |
| 18 | 0.0 | 68 | 11.11 | 118 | 14.57 | 168 | 23.00 |
| 19 | 0.0 | 69 | 14.58 | 119 | 14.27 | 169 | 23.60 |
| 20 | 0.0 | 70 | 14.00 | 120 | 14.00 | 170 | 24.00 |
| 21 | 0.31 | 71 | 13.65 | 121 | 13.95 | 171 | 22.17 |
| 22 | 1.00 | 72 | 12.67 | 122 | 12.59 | 172 | 25.00 |
| 23 | 1.00 | 73 | 14.00 | 123 | 11.72 | 173 | 25.00 |
| 24 | 1.00 | 74 | 14.65 | 124 | 13.52 | 174 | 25.39 |
| 25 | 2.87 | 75 | 11.78 | 125 | 14.00 | 175 | 26.55 |
| 26 | 2.00 | 76 | 8.11 | 126 | 14.00 | 176 | 27.00 |
| 27 | 1.75 | 77 | 9.12 | 127 | 14.99 | 177 | 27.86 |
| 28 | 1.41 | 78 | 9.17 | 128 | 15.30 | 178 | 24.94 |
| 29 | 3.69 | 79 | 6.56 | 129 | 17.31 | 179 | 22.18 |
| 30 | 7.17 | 80 | 7.19 | 130 | 17.54 | 180 | 23.33 |
| 31 | 6.24 | 81 | 9.50 | 131 | 17.62 | 181 | 24.00 |
| 32 | 6.07 | 82 | 12.72 | 132 | 15.67 | 182 | 24.00 |
| 33 | 8.39 | 83 | 10.13 | 133 | 12.19 | 183 | 24.00 |
| 34 | 10.70 | 84 | 12.44 | 134 | 14.09 | 184 | 21.11 |
| 35 | 12.51 | 85 | 12.86 | 135 | 15.00 | 185 | 22.24 |
| 36 | 12.33 | 86 | 9.93 | 136 | 15.41 | 186 | 24.56 |
| 37 | 12.00 | 87 | 9.69 | 137 | 16.00 | 187 | 26.00 |
| 38 | 12.98 | 88 | 9.15 | 138 | 14.56 | 188 | 26.00 |
| 39 | 10.00 | 89 | 8.97 | 139 | 14.88 | 189 | 26.00 |
| 40 | 10.30 | 90 | 5.50 | 140 | 15.07 | 190 | 27.81 |
| 41 | 11.00 | 91 | 4.30 | 141 | 17.00 | 191 | 30.13 |
| 42 | 11.00 | 92 | 7.48 | 142 | 17.35 | 192 | 31.78 |
| 43 | 11.77 | 93 | 8.00 | 143 | 18.00 | 193 | 31.00 |
| 44 | 12.00 | 94 | 4.81 | 144 | 18.67 | 194 | 31.00 |
| 45 | 12.25 | 95 | 4.00 | 145 | 20.65 | 195 | 28.22 |
| 46 | 15.00 | 96 | 3.33 | 146 | 21.00 | 196 | 27.85 |
| 47 | 14.20 | 97 | 6.54 | 147 | 21.28 | 197 | 29.00 |
| 48 | 13.56 | 98 | 7.57 | 148 | 22.41 | 198 | 28.83 |
| 49 | 15.43 | 99 | 8.75 | 149 | 21.91 | 199 | 27.03 |
| 50 | 15.13 | 100 | 7.04 | 150 | 22.39 | 200 | 25.48 |

DRIVING SCHEDULE FOR
CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 25.36 | 251 | 20.98 | 301 | 11.62 | 351 | 6.50 |
| 202 | 25.80 | 252 | 20.67 | 302 | 11.54 | 352 | 5.41 |
| 203 | 26.95 | 253 | 21.00 | 303 | 13.39 | 353 | 7.13 |
| 204 | 25.11 | 254 | 21.98 | 304 | 15.70 | 354 | 8.72 |
| 205 | 26.00 | 255 | 24.14 | 305 | 15.98 | 355 | 5.48 |
| 206 | 25.57 | 256 | 25.00 | 306 | 14.00 | 356 | 2.11 |
| 207 | 25.00 | 257 | 25.91 | 307 | 14.65 | 357 | 4.42 |
| 208 | 23.52 | 258 | 25.78 | 308 | 15.52 | 358 | 1.65 |
| 209 | 24.80 | 259 | 25.00 | 309 | 15.00 | 359 | 0.49 |
| 210 | 25.11 | 260 | 25.00 | 310 | 15.00 | 360 | 0.0 |
| 211 | 26.79 | 261 | 25.00 | 311 | 15.95 | 361 | 0.0 |
| 212 | 26.37 | 262 | 25.24 | 312 | 16.78 | 362 | 0.0 |
| 213 | 25.94 | 263 | 24.41 | 313 | 15.00 | 363 | 0.0 |
| 214 | 23.63 | 264 | 22.56 | 314 | 15.00 | 364 | 0.0 |
| 215 | 23.00 | 265 | 21.57 | 315 | 16.75 | 365 | 0.0 |
| 216 | 23.00 | 266 | 20.13 | 316 | 17.26 | 366 | 0.0 |
| 217 | 23.00 | 267 | 17.06 | 317 | 15.20 | 367 | 0.0 |
| 218 | 22.06 | 268 | 18.81 | 318 | 16.06 | 368 | 0.0 |
| 219 | 19.53 | 269 | 16.97 | 319 | 17.21 | 369 | 0.0 |
| 220 | 19.00 | 270 | 14.00 | 320 | 19.11 | 370 | 0.0 |
| 221 | 19.79 | 271 | 13.00 | 321 | 22.06 | 371 | 0.0 |
| 222 | 19.06 | 272 | 13.00 | 322 | 23.69 | 372 | 0.0 |
| 223 | 17.00 | 273 | 15.92 | 323 | 24.00 | 373 | 0.0 |
| 224 | 16.74 | 274 | 17.26 | 324 | 23.00 | 374 | 0.0 |
| 225 | 16.42 | 275 | 19.00 | 325 | 22.68 | 375 | 0.0 |
| 226 | 16.43 | 276 | 18.11 | 326 | 21.00 | 376 | 0.0 |
| 227 | 16.00 | 277 | 14.59 | 327 | 20.53 | 377 | 0.0 |
| 228 | 13.33 | 278 | 14.52 | 328 | 21.89 | 378 | 0.0 |
| 229 | 14.00 | 279 | 15.00 | 329 | 22.21 | 379 | 0.0 |
| 230 | 14.00 | 280 | 11.93 | 330 | 22.00 | 380 | 0.0 |
| 231 | 14.00 | 281 | 10.54 | 331 | 21.69 | 381 | 0.0 |
| 232 | 14.00 | 282 | 8.61 | 332 | 18.48 | 382 | 0.0 |
| 233 | 14.00 | 283 | 8.55 | 333 | 17.00 | 383 | 0.0 |
| 234 | 14.00 | 284 | 9.00 | 334 | 17.57 | 384 | 0.0 |
| 235 | 14.99 | 285 | 6.42 | 335 | 19.46 | 385 | 0.0 |
| 236 | 14.00 | 286 | 8.07 | 336 | 19.11 | 386 | 0.0 |
| 237 | 14.00 | 287 | 12.00 | 337 | 15.86 | 387 | 0.0 |
| 238 | 14.46 | 288 | 12.67 | 338 | 13.41 | 388 | 0.0 |
| 239 | 15.00 | 289 | 13.51 | 339 | 14.64 | 389 | 0.0 |
| 240 | 15.00 | 290 | 11.05 | 340 | 13.48 | 390 | 0.39 |
| 241 | 16.87 | 291 | 10.00 | 341 | 10.29 | 391 | 1.00 |
| 242 | 15.72 | 292 | 11.93 | 342 | 7.33 | 392 | 0.30 |
| 243 | 13.00 | 293 | 14.00 | 343 | 7.00 | 393 | 0.0 |
| 244 | 13.81 | 294 | 14.28 | 344 | 9.41 | 394 | 0.0 |
| 245 | 15.00 | 295 | 15.87 | 345 | 6.61 | 395 | 0.0 |
| 246 | 17.17 | 296 | 16.41 | 346 | 7.07 | 396 | 0.0 |
| 247 | 18.88 | 297 | 13.00 | 347 | 7.86 | 397 | 0.0 |
| 248 | 21.00 | 298 | 9.28 | 348 | 9.78 | 398 | 0.0 |
| 249 | 21.00 | 299 | 10.13 | 349 | 8.13 | 399 | 0.0 |
| 250 | 21.35 | 300 | 12.00 | 350 | 7.91 | 400 | 0.0 |

DRIVING SCHEDULE FOR
CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 401 | 0.0 | 451 | 1.00 | 501 | 0.0 | 551 | 0.0 |
| 402 | 0.0 | 452 | 0.0 | 502 | 0.0 | 552 | 0.0 |
| 403 | 0.0 | 453 | 0.0 | 503 | 0.0 | 553 | 1.05 |
| 404 | 0.0 | 454 | 0.0 | 504 | 0.0 | 554 | 2.82 |
| 405 | 0.0 | 455 | 0.0 | 505 | 0.0 | 555 | 6.72 |
| 406 | 0.0 | 456 | 0.0 | 506 | 0.0 | 556 | 10.08 |
| 407 | 0.0 | 457 | 0.0 | 507 | 0.0 | 557 | 13.35 |
| 408 | 0.0 | 458 | 0.0 | 508 | 0.0 | 558 | 14.00 |
| 409 | 0.0 | 459 | 0.25 | 509 | 0.0 | 559 | 14.00 |
| 410 | 0.0 | 460 | 0.59 | 510 | 0.0 | 560 | 14.00 |
| 411 | 0.0 | 461 | 0.0 | 511 | 1.31 | 561 | 13.69 |
| 412 | 0.0 | 462 | 0.0 | 512 | 4.78 | 562 | 13.46 |
| 413 | 0.0 | 463 | 0.0 | 513 | 7.50 | 563 | 14.62 |
| 414 | 0.0 | 464 | 0.11 | 514 | 4.37 | 564 | 14.22 |
| 415 | 0.0 | 465 | 2.61 | 515 | 2.00 | 565 | 14.94 |
| 416 | 0.0 | 466 | 1.00 | 516 | 1.78 | 566 | 14.09 |
| 417 | 0.0 | 467 | 2.02 | 517 | 1.00 | 567 | 14.75 |
| 418 | 0.0 | 468 | 2.33 | 518 | 1.00 | 568 | 14.00 |
| 419 | 0.0 | 469 | 2.00 | 519 | 3.08 | 569 | 14.00 |
| 420 | 0.0 | 470 | 3.96 | 520 | 4.85 | 570 | 12.55 |
| 421 | 0.0 | 471 | 1.86 | 521 | 4.97 | 571 | 12.00 |
| 422 | 0.0 | 472 | 1.59 | 522 | 2.33 | 572 | 12.93 |
| 423 | 0.0 | 473 | 3.91 | 523 | 3.03 | 573 | 11.39 |
| 424 | 0.0 | 474 | 3.17 | 524 | 0.52 | 574 | 13.70 |
| 425 | 0.0 | 475 | 2.77 | 525 | 0.0 | 575 | 15.00 |
| 426 | 0.0 | 476 | 3.00 | 526 | 0.0 | 576 | 14.33 |
| 427 | 0.21 | 477 | 3.75 | 527 | 0.0 | 577 | 14.00 |
| 428 | 1.74 | 478 | 1.00 | 528 | 0.0 | 578 | 14.00 |
| 429 | 2.47 | 479 | 1.00 | 529 | 0.0 | 579 | 13.28 |
| 430 | 1.31 | 480 | 0.44 | 530 | 0.0 | 580 | 14.11 |
| 431 | 0.16 | 481 | 0.0 | 531 | 0.0 | 581 | 10.18 |
| 432 | 0.0 | 482 | 0.0 | 532 | 0.0 | 582 | 8.61 |
| 433 | 0.0 | 483 | 0.0 | 533 | 0.0 | 583 | 9.77 |
| 434 | 0.0 | 484 | 0.0 | 534 | 0.0 | 584 | 11.85 |
| 435 | 0.0 | 485 | 0.0 | 535 | 0.21 | 585 | 14.00 |
| 436 | 0.0 | 486 | 0.0 | 536 | 0.63 | 586 | 14.48 |
| 437 | 0.0 | 487 | 0.0 | 537 | 0.0 | 587 | 14.80 |
| 438 | 0.0 | 488 | 0.0 | 538 | 0.0 | 588 | 14.11 |
| 439 | 0.0 | 489 | 0.0 | 539 | 0.0 | 589 | 12.86 |
| 440 | 0.0 | 490 | 0.0 | 540 | 0.0 | 590 | 13.74 |
| 441 | 0.0 | 491 | 0.0 | 541 | 0.0 | 591 | 14.03 |
| 442 | 0.0 | 492 | 0.0 | 542 | 0.0 | 592 | 15.19 |
| 443 | 0.0 | 493 | 0.0 | 543 | 0.95 | 593 | 15.66 |
| 444 | 0.0 | 494 | 0.0 | 544 | 0.74 | 594 | 16.00 |
| 445 | 0.0 | 495 | 0.0 | 545 | 0.0 | 595 | 16.34 |
| 446 | 0.0 | 496 | 0.0 | 546 | 0.0 | 596 | 17.63 |
| 447 | 0.0 | 497 | 0.0 | 547 | 0.0 | 597 | 18.97 |
| 448 | 0.0 | 498 | 0.0 | 548 | 0.0 | 598 | 21.13 |
| 449 | 0.0 | 499 | 0.0 | 549 | 0.0 | 599 | 22.00 |
| 450 | 0.83 | 500 | 0.0 | 550 | 0.0 | 600 | 22.44 |

DRIVING SCHEDULE FOR
CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 601 | 23.00 | 651 | 29.47 | 701 | 29.66 | 751 | 25.43 |
| 602 | 24.52 | 652 | 30.63 | 702 | 29.50 | 752 | 27.37 |
| 603 | 25.00 | 653 | 30.21 | 703 | 30.00 | 753 | 28.00 |
| 604 | 24.07 | 654 | 30.00 | 704 | 30.00 | 754 | 28.00 |
| 605 | 24.77 | 655 | 30.90 | 705 | 30.00 | 755 | 28.84 |
| 606 | 23.61 | 656 | 30.26 | 706 | 30.13 | 756 | 30.00 |
| 607 | 22.45 | 657 | 31.00 | 707 | 31.00 | 757 | 31.16 |
| 608 | 21.30 | 658 | 32.15 | 708 | 31.00 | 758 | 32.00 |
| 609 | 20.14 | 659 | 33.73 | 709 | 31.00 | 759 | 31.53 |
| 610 | 20.98 | 660 | 34.00 | 710 | 31.76 | 760 | 31.00 |
| 611 | 20.18 | 661 | 33.05 | 711 | 32.00 | 761 | 31.00 |
| 612 | 21.00 | 662 | 33.80 | 712 | 31.00 | 762 | 31.94 |
| 613 | 21.00 | 663 | 33.72 | 713 | 30.77 | 763 | 32.00 |
| 614 | 20.35 | 664 | 35.52 | 714 | 30.39 | 764 | 32.00 |
| 615 | 20.81 | 665 | 36.00 | 715 | 31.00 | 765 | 31.17 |
| 616 | 19.07 | 666 | 36.83 | 716 | 31.70 | 766 | 30.00 |
| 617 | 16.36 | 667 | 37.99 | 717 | 32.00 | 767 | 30.00 |
| 618 | 19.28 | 668 | 38.00 | 718 | 32.98 | 768 | 29.11 |
| 619 | 20.87 | 669 | 38.00 | 719 | 32.00 | 769 | 30.05 |
| 620 | 22.59 | 670 | 36.61 | 720 | 32.33 | 770 | 30.59 |
| 621 | 23.00 | 671 | 34.38 | 721 | 33.00 | 771 | 28.64 |
| 622 | 24.82 | 672 | 34.78 | .22 | 31.70 | 772 | 27.48 |
| 623 | 25.00 | 673 | 35.94 | 723 | 31.81 | 773 | 27.68 |
| 624 | 25.22 | 674 | 36.91 | 724 | 31.04 | 774 | 28.83 |
| 625 | 26.38 | 675 | 35.50 | 725 | 30.88 | 775 | 29.00 |
| 626 | 27.54 | 676 | 33.59 | 726 | 29.72 | 776 | 28.70 |
| 627 | 28.69 | 677 | 32.43 | 727 | 28.56 | 777 | 27.31 |
| 628 | 29.00 | 678 | 32.00 | 728 | 28.00 | 778 | 28.93 |
| 629 | 30.00 | 679 | 32.00 | 729 | 28.75 | 779 | 30.00 |
| 630 | 30.17 | 680 | 29.89 | 730 | 29.91 | 780 | 28.44 |
| 631 | 31.65 | 681 | 27.19 | 731 | 29.87 | 781 | 28.00 |
| 632 | 33.48 | 682 | 28.00 | 732 | 27.56 | 782 | 29.09 |
| 633 | 32.08 | 683 | 28.51 | 733 | 25.24 | 783 | 30.25 |
| 634 | 30.20 | 684 | 29.67 | 734 | 24.54 | 784 | 31.41 |
| 635 | 31.91 | 685 | 30.00 | 735 | 25.00 | 785 | 32.00 |
| 636 | 32.00 | 686 | 30.00 | 736 | 25.85 | 786 | 32.72 |
| 637 | 32.00 | 687 | 30.00 | 737 | 25.00 | 787 | 31.24 |
| 638 | 32.43 | 688 | 30.30 | 738 | 25.17 | 788 | 31.04 |
| 639 | 33.00 | 689 | 31.00 | 739 | 26.32 | 789 | 31.81 |
| 640 | 33.00 | 690 | 29.78 | 740 | 27.00 | 790 | 31.00 |
| 641 | 33.00 | 691 | 29.00 | 741 | 26.36 | 791 | 31.51 |
| 642 | 33.06 | 692 | 27.15 | 742 | 26.00 | 792 | 32.00 |
| 643 | 34.00 | 693 | 27.08 | 743 | 26.95 | 793 | 30.35 |
| 644 | 32.89 | 694 | 28.48 | 744 | 27.00 | 794 | 30.98 |
| 645 | 31.00 | 695 | 30.40 | 745 | 27.00 | 795 | 31.14 |
| 646 | 31.00 | 696 | 31.56 | 746 | 26.57 | 796 | 31.70 |
| 647 | 30.16 | 697 | 32.71 | 747 | 24.25 | 797 | 31.45 |
| 648 | 30.00 | 698 | 32.13 | 748 | 23.74 | 798 | 31.39 |
| 649 | 30.53 | 699 | 31.00 | 749 | 24.00 | 799 | 30.23 |
| 650 | 28.32 | 700 | 30.81 | 750 | 25.00 | 800 | 30.93 |

DRIVING SCHEDULE FOR
CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 801 | 30.83 | 851 | 33.00 | 901 | 40.00 | 951 | 51.00 |
| 802 | 29.24 | 852 | 32.00 | 902 | 40.00 | 952 | 51.85 |
| 803 | 30.00 | 853 | 32.27 | 903 | 39.86 | 953 | 52.01 |
| 804 | 29.44 | 854 | 32.57 | 904 | 39.30 | 954 | 53.00 |
| 805 | 28.29 | 855 | 32.00 | 905 | 40.45 | 955 | 53.00 |
| 806 | 28.87 | 856 | 32.00 | 906 | 41.00 | 956 | 53.00 |
| 807 | 28.00 | 857 | 32.90 | 907 | 41.00 | 957 | 53.00 |
| 808 | 28.19 | 858 | 35.00 | 908 | 41.00 | 958 | 53.00 |
| 809 | 29.34 | 859 | 35.00 | 909 | 41.00 | 959 | 53.00 |
| 810 | 30.50 | 860 | 34.26 | 910 | 41.00 | 960 | 53.00 |
| 811 | 31.66 | 861 | 31.94 | 911 | 41.00 | 961 | 53.00 |
| 812 | 32.00 | 862 | 31.69 | 912 | 40.44 | 962 | 53.00 |
| 813 | 32.00 | 863 | 32.84 | 913 | 40.71 | 963 | 53.00 |
| 814 | 31.00 | 864 | 32.00 | 914 | 41.00 | 964 | 53.00 |
| 815 | 31.29 | 865 | 32.16 | 915 | 42.00 | 965 | 53.00 |
| 816 | 32.44 | 866 | 33.00 | 916 | 42.19 | 966 | 52.94 |
| 817 | 33.60 | 867 | 33.00 | 917 | 43.00 | 967 | 52.00 |
| 818 | 33.24 | 868 | 33.00 | 918 | 43.00 | 968 | 52.37 |
| 819 | 32.08 | 869 | 33.79 | 919 | 43.00 | 969 | 53.00 |
| 820 | 32.93 | 870 | 34.00 | 920 | 43.00 | 970 | 53.00 |
| 821 | 32.23 | 871 | 34.00 | 921 | 43.00 | 971 | 53.00 |
| 822 | 33.00 | 872 | 34.00 | 922 | 43.00 | 972 | 53.00 |
| 823 | 34.09 | 873 | 34.83 | 923 | 43.00 | 973 | 53.00 |
| 824 | 35.00 | 874 | 36.00 | 924 | 43.44 | 974 | 53.00 |
| 825 | 35.86 | 875 | 36.00 | 925 | 44.00 | 975 | 53.00 |
| 826 | 36.02 | 876 | 35.11 | 926 | 44.00 | 976 | 53.00 |
| 827 | 37.18 | 877 | 33.05 | 927 | 44.00 | 977 | 53.00 |
| 828 | 38.00 | 878 | 34.41 | 928 | 45.00 | 978 | 53.00 |
| 829 | 38.00 | 879 | 36.00 | 929 | 45.23 | 979 | 53.20 |
| 830 | 38.00 | 880 | 36.00 | 930 | 46.00 | 980 | 55.00 |
| 831 | 38.00 | 881 | 36.68 | 931 | 46.00 | 981 | 55.00 |
| 832 | 38.96 | 882 | 37.00 | 932 | 46.00 | 982 | 55.00 |
| 833 | 38.76 | 883 | 37.00 | 933 | 46.86 | 983 | 55.00 |
| 834 | 37.00 | 884 | 35.30 | 934 | 47.00 | 984 | 55.00 |
| 835 | 37.00 | 885 | 37.00 | 935 | 47.18 | 985 | 55.00 |
| 836 | 37.00 | 886 | 37.00 | 936 | 48.00 | 986 | 55.20 |
| 837 | 37.00 | 887 | 37.62 | 937 | 48.00 | 987 | 56.00 |
| 838 | 36.09 | 888 | 38.78 | 938 | 48.65 | 988 | 56.00 |
| 839 | 34.93 | 889 | 38.06 | 939 | 49.81 | 989 | 56.00 |
| 840 | 34.22 | 890 | 38.09 | 940 | 50.00 | 990 | 56.00 |
| 841 | 35.00 | 891 | 39.25 | 941 | 50.00 | 991 | 56.00 |
| 842 | 33.93 | 892 | 40.00 | 942 | 50.28 | 992 | 55.00 |
| 843 | 33.00 | 893 | 40.57 | 943 | 51.00 | 993 | 54.69 |
| 844 | 33.85 | 894 | 41.00 | 944 | 51.00 | 994 | 54.00 |
| 845 | 34.00 | 895 | 41.88 | 945 | 50.25 | 995 | 54.00 |
| 846 | 33.83 | 896 | 41.00 | 946 | 50.00 | 996 | 54.00 |
| 847 | 33.00 | 897 | 41.19 | 947 | 49.00 | 997 | 54.00 |
| 848 | 33.00 | 898 | 42.00 | 948 | 49.22 | 998 | 53.00 |
| 849 | 32.36 | 899 | 42.00 | 949 | 50.38 | 999 | 53.00 |
| 850 | 32.80 | 900 | 40.67 | 950 | 51.00 | 1000 | 53.41 |

DRIVING SCHEDULE FOR
CYCLE 2041393295

LA BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 1001 | 54.00 | 1017 | 48.92 | 1033 | 22.19 | 1049 | 0.0 |
| 1002 | 54.00 | 1018 | 47.76 | 1034 | 19.48 | 1050 | 0.0 |
| 1003 | 54.00 | 1019 | 45.80 | 1035 | 16.25 | 1051 | 0.0 |
| 1004 | 54.00 | 1020 | 43.44 | 1036 | 14.93 | 1052 | 0.0 |
| 1005 | 54.00 | 1021 | 40.86 | 1037 | 13.30 | 1053 | 0.0 |
| 1006 | 53.65 | 1022 | 39.13 | 1038 | 10.22 | 1054 | 0.0 |
| 1007 | 53.00 | 1023 | 37.97 | 1039 | 7.91 | 1055 | 0.0 |
| 1008 | 53.00 | 1024 | 36.81 | 1040 | 6.30 | 1056 | 0.0 |
| 1009 | 53.00 | 1025 | 35.31 | 1041 | 3.42 | 1057 | 0.0 |
| 1010 | 53.98 | 1026 | 33.50 | 1042 | 0.98 | 1058 | 0.0 |
| 1011 | 54.14 | 1027 | 32.34 | 1043 | 0.0 | 1059 | 0.0 |
| 1012 | 54.70 | 1028 | 31.18 | 1044 | 0.0 | 1060 | 0.0 |
| 1013 | 53.55 | 1029 | 30.03 | 1045 | 0.0 | 1061 | 0.0 |
| 1014 | 52.39 | 1030 | 28.74 | 1046 | 0.0 | 1062 | 0.0 |
| 1015 | 51.23 | 1031 | 26.43 | 1047 | 0.0 | 1063 | 0.0 |
| 1016 | 50.07 | 1032 | 24.56 | 1048 | 0.0 | | |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX
NY BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 180544 | 6991 | 1890 | 175 | 165 | 189765 |
| 1 | 0 | 0 | 0 | 7316 | 8406 | 4330 | 1810 | 553 | 139 | 22554 |
| 2 | 0 | 0 | 959 | 4866 | 4149 | 3431 | 2051 | 774 | 74 | 16304 |
| 3 | 0 | 45 | 2315 | 2871 | 3584 | 2705 | 2479 | 532 | 73 | 14604 |
| 4 | 0 | 542 | 1928 | 2535 | 3252 | 3070 | 2059 | 443 | 251 | 14080 |
| 5 | 53 | 795 | 1814 | 2538 | 2763 | 3401 | 1649 | 709 | 273 | 13995 |
| 6 | 221 | 798 | 1727 | 2085 | 3606 | 2902 | 2031 | 661 | 137 | 14168 |
| 7 | 262 | 919 | 1459 | 2269 | 3772 | 3126 | 1907 | 544 | 57 | 14315 |
| 8 | 367 | 800 | 1136 | 2986 | 3084 | 3391 | 1843 | 439 | 153 | 14199 |
| 9 | 438 | 564 | 1768 | 2366 | 3693 | 3413 | 1794 | 468 | 210 | 14714 |
| 10 | 320 | 581 | 1676 | 2322 | 3936 | 3828 | 1478 | 519 | 168 | 14828 |
| 11 | 262 | 877 | 1196 | 2915 | 4088 | 3346 | 1521 | 529 | 59 | 14793 |
| 12 | 369 | 621 | 1336 | 2573 | 4258 | 3254 | 1736 | 327 | 53 | 14527 |
| 13 | 376 | 441 | 1272 | 2775 | 4040 | 3649 | 1339 | 233 | 143 | 14268 |
| 14 | 286 | 504 | 1220 | 2706 | 4219 | 3424 | 1051 | 300 | 172 | 13882 |
| 15 | 201 | 583 | 1249 | 2029 | 4403 | 3037 | 1054 | 386 | 131 | 13073 |
| 16 | 260 | 494 | 816 | 2261 | 4351 | 2913 | 959 | 381 | 56 | 12491 |
| 17 | 294 | 375 | 823 | 2543 | 4044 | 2786 | 1182 | 271 | 23 | 12341 |
| 18 | 263 | 292 | 992 | 2219 | 3820 | 2804 | 996 | 160 | 36 | 11582 |
| 19 | 168 | 333 | 955 | 1938 | 3713 | 2725 | 772 | 170 | 92 | 10866 |
| 20 | 149 | 431 | 721 | 1671 | 3709 | 2345 | 688 | 283 | 88 | 10085 |
| 21 | 188 | 374 | 531 | 1689 | 3268 | 2066 | 765 | 362 | 36 | 9279 |
| 22 | 215 | 234 | 441 | 1838 | 2726 | 1860 | 844 | 238 | 5 | 8401 |
| 23 | 160 | 165 | 639 | 1602 | 2234 | 1740 | 721 | 82 | 0 | 7343 |
| 24 | 109 | 176 | 817 | 1222 | 2086 | 1634 | 496 | 68 | 0 | 6608 |
| 25 | 77 | 294 | 561 | 1023 | 1872 | 1473 | 373 | 128 | 0 | 5801 |
| 26 | 91 | 218 | 395 | 887 | 1688 | 1202 | 419 | 150 | 0 | 5050 |
| 27 | 101 | 139 | 275 | 960 | 1418 | 1077 | 484 | 113 | 0 | 4567 |
| 28 | 80 | 61 | 334 | 898 | 1322 | 963 | 402 | 38 | 0 | 4098 |
| 29 | 48 | 93 | 406 | 780 | 1155 | 861 | 210 | 40 | 0 | 3593 |
| 30 | 26 | 180 | 322 | 584 | 998 | 742 | 246 | 79 | 0 | 3177 |
| 31 | 25 | 97 | 152 | 597 | 787 | 573 | 263 | 23 | 0 | 2517 |

INPUT INITIAL SPEED VS DELTA SPEED MATRIX (CONTINUED)
NY BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 28 | 37 | 187 | 482 | 600 | 473 | 154 | 8 | 0 | 1969 |
| 33 | 23 | 31 | 215 | 366 | 591 | 435 | 93 | 1 | 0 | 1755 |
| 34 | 10 | 79 | 103 | 235 | 516 | 359 | 86 | 2 | 0 | 1390 |
| 35 | 16 | 37 | 74 | 259 | 425 | 296 | 161 | 0 | 0 | 1268 |
| 36 | 12 | 18 | 58 | 229 | 397 | 269 | 122 | 0 | 0 | 1105 |
| 37 | 13 | 8 | 82 | 185 | 391 | 231 | 40 | 0 | 0 | 950 |
| 38 | 2 | 33 | 91 | 138 | 304 | 205 | 36 | 0 | 0 | 809 |
| 39 | 4 | 44 | 48 | 110 | 269 | 161 | 69 | 0 | 0 | 705 |
| 40 | 8 | 6 | 33 | 130 | 198 | 132 | 61 | 0 | 0 | 568 |
| 41 | 6 | 2 | 46 | 89 | 144 | 101 | 33 | 0 | 0 | 421 |
| 42 | 2 | 8 | 53 | 51 | 145 | 105 | 21 | 0 | 0 | 385 |
| 43 | 1 | 26 | 18 | 87 | 164 | 130 | 37 | 0 | 0 | 463 |
| 44 | 2 | 5 | 20 | 79 | 133 | 123 | 48 | 0 | 0 | 410 |
| 45 | 2 | 2 | 32 | 54 | 93 | 86 | 20 | 0 | 0 | 289 |
| 46 | 0 | 21 | 49 | 22 | 65 | 35 | 1 | 0 | 0 | 193 |
| 47 | 0 | 28 | 13 | 10 | 49 | 13 | 0 | 0 | 0 | 113 |
| 48 | 0 | 0 | 1 | 6 | 12 | 1 | 0 | 0 | 0 | 20 |
| 49 | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 5 |
| 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTALS | 5538 | 12411 | 31359 | 70396 | 285487 | 88218 | 38494 | 10189 | 2594 | 544686 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%)
NY BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.1464 | 1.2835 | 0.3470 | 0.0321 | 0.0303 |
| 1 | 0.0 | 0.0 | 0.0 | 1.3432 | 1.5433 | 0.7950 | 0.3323 | 0.1015 | 0.0255 |
| 2 | 0.0 | 0.0 | 0.1761 | 0.8934 | 0.7617 | 0.6299 | 0.3765 | 0.1421 | 0.0136 |
| 3 | 0.0 | 0.0083 | 0.4250 | 0.5271 | 0.6580 | 0.4966 | 0.4551 | 0.0977 | 0.0134 |
| 4 | 0.0 | 0.0995 | 0.3540 | 0.4654 | 0.5970 | 0.5636 | 0.3780 | 0.0813 | 0.0461 |
| 5 | 0.0097 | 0.1460 | 0.3330 | 0.4660 | 0.5073 | 0.6244 | 0.3027 | 0.1302 | 0.0501 |
| 6 | 0.0406 | 0.1465 | 0.3171 | 0.3828 | 0.6620 | 0.5328 | 0.3729 | 0.1214 | 0.0252 |
| 7 | 0.0481 | 0.1687 | 0.2679 | 0.4166 | 0.6925 | 0.5739 | 0.3501 | 0.0999 | 0.0105 |
| 8 | 0.0674 | 0.1469 | 0.2086 | 0.5482 | 0.5662 | 0.6226 | 0.3384 | 0.0806 | 0.0281 |
| 9 | 0.0804 | 0.1035 | 0.3246 | 0.4344 | 0.6780 | 0.6266 | 0.3294 | 0.0859 | 0.0386 |
| 10 | 0.0587 | 0.1057 | 0.3077 | 0.4263 | 0.7226 | 0.7028 | 0.2713 | 0.0953 | 0.0308 |
| 11 | 0.0481 | 0.1610 | 0.2196 | 0.5352 | 0.7505 | 0.6143 | 0.2792 | 0.0971 | 0.0108 |
| 12 | 0.0677 | 0.1140 | 0.2453 | 0.4724 | 0.7817 | 0.5974 | 0.3187 | 0.0600 | 0.0097 |
| 13 | 0.0690 | 0.0810 | 0.2335 | 0.5095 | 0.7417 | 0.6699 | 0.2458 | 0.0428 | 0.0263 |
| 14 | 0.0525 | 0.0925 | 0.2240 | 0.4968 | 0.7746 | 0.6286 | 0.1930 | 0.0551 | 0.0316 |
| 15 | 0.0369 | 0.1070 | 0.2293 | 0.3725 | 0.8084 | 0.5576 | 0.1935 | 0.0709 | 0.0241 |
| 16 | 0.0477 | 0.0907 | 0.1498 | 0.4151 | 0.7988 | 0.5348 | 0.1761 | 0.0699 | 0.0103 |
| 17 | 0.0540 | 0.0688 | 0.1511 | 0.4669 | 0.7424 | 0.5115 | 0.2170 | 0.0498 | 0.0042 |
| 18 | 0.0483 | 0.0536 | 0.1821 | 0.4074 | 0.7013 | 0.5148 | 0.1829 | 0.0294 | 0.0066 |
| 19 | 0.0308 | 0.0611 | 0.1753 | 0.3558 | 0.6817 | 0.5003 | 0.1417 | 0.0312 | 0.0169 |
| 20 | 0.0274 | 0.0791 | 0.1324 | 0.3068 | 0.6809 | 0.4305 | 0.1263 | 0.0520 | 0.0162 |
| 21 | 0.0345 | 0.0687 | 0.0975 | 0.3101 | 0.6000 | 0.3793 | 0.1404 | 0.0665 | 0.0066 |
| 22 | 0.0395 | 0.0430 | 0.0810 | 0.3374 | 0.5005 | 0.3415 | 0.1550 | 0.0437 | 0.0009 |
| 23 | 0.0294 | 0.0303 | 0.1173 | 0.2941 | 0.4101 | 0.3195 | 0.1324 | 0.0151 | 0.0 |
| 24 | 0.0200 | 0.0323 | 0.1500 | 0.2243 | 0.3830 | 0.3000 | 0.0911 | 0.0125 | 0.0 |
| 25 | 0.0141 | 0.0540 | 0.1030 | 0.1878 | 0.3437 | 0.2704 | 0.0685 | 0.0235 | 0.0 |
| 26 | 0.0167 | 0.0400 | 0.0725 | 0.1628 | 0.3099 | 0.2207 | 0.0769 | 0.0275 | 0.0 |
| 27 | 0.0185 | 0.0255 | 0.0505 | 0.1762 | 0.2603 | 0.1977 | 0.0889 | 0.0207 | 0.0 |
| 28 | 0.0147 | 0.0112 | 0.0613 | 0.1649 | 0.2427 | 0.1768 | 0.0738 | 0.0070 | 0.0 |
| 29 | 0.0088 | 0.0171 | 0.0745 | 0.1432 | 0.2120 | 0.1581 | 0.0386 | 0.0073 | 0.0 |
| 30 | 0.0048 | 0.0330 | 0.0591 | 0.1072 | 0.1832 | 0.1362 | 0.0452 | 0.0145 | 0.0 |

NORMALIZED INPUT INITIAL SPEED VS DELTA SPEED MATRIX (%) (CONTINUED)
NY BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 0.0046 | 0.0178 | 0.0279 | 0.1096 | 0.1445 | 0.1052 | 0.0483 | 0.0042 | 0.0 |
| 32 | 0.0051 | 0.0068 | 0.0343 | 0.0885 | 0.1102 | 0.0868 | 0.0283 | 0.0015 | 0.0 |
| 33 | 0.0042 | 0.0057 | 0.0395 | 0.0672 | 0.1085 | 0.0799 | 0.0171 | 0.0002 | 0.0 |
| 34 | 0.0018 | 0.0145 | 0.0189 | 0.0431 | 0.0947 | 0.0659 | 0.0158 | 0.0004 | 0.0 |
| 35 | 0.0029 | 0.0068 | 0.0136 | 0.0476 | 0.0780 | 0.0543 | 0.0296 | 0.0 | 0.0 |
| 36 | 0.0022 | 0.0033 | 0.0106 | 0.0420 | 0.0729 | 0.0494 | 0.0224 | 0.0 | 0.0 |
| 37 | 0.0024 | 0.0015 | 0.0151 | 0.0340 | 0.0718 | 0.0424 | 0.0073 | 0.0 | 0.0 |
| 38 | 0.0004 | 0.0061 | 0.0167 | 0.0253 | 0.0558 | 0.0376 | 0.0066 | 0.0 | 0.0 |
| 39 | 0.0007 | 0.0031 | 0.0088 | 0.0202 | 0.0494 | 0.0296 | 0.0127 | 0.0 | 0.0 |
| 40 | 0.0015 | 0.0011 | 0.0061 | 0.0239 | 0.0364 | 0.0242 | 0.0112 | 0.0 | 0.0 |
| 41 | 0.0011 | 0.0004 | 0.0084 | 0.0163 | 0.0264 | 0.0185 | 0.0061 | 0.0 | 0.0 |
| 42 | 0.0004 | 0.0015 | 0.0057 | 0.0094 | 0.0266 | 0.0193 | 0.0039 | 0.0 | 0.0 |
| 43 | 0.0002 | 0.0048 | 0.0033 | 0.0160 | 0.0301 | 0.0239 | 0.0068 | 0.0 | 0.0 |
| 44 | 0.0004 | 0.0009 | 0.0037 | 0.0145 | 0.0244 | 0.0226 | 0.0088 | 0.0 | 0.0 |
| 45 | 0.0004 | 0.0004 | 0.0059 | 0.0099 | 0.0171 | 0.0158 | 0.0037 | 0.0 | 0.0 |
| 46 | 0.0 | 0.0039 | 0.0090 | 0.0040 | 0.0119 | 0.0064 | 0.0002 | 0.0 | 0.0 |
| 47 | 0.0 | 0.0051 | 0.0024 | 0.0018 | 0.0090 | 0.0024 | 0.0 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 | 0.0002 | 0.0011 | 0.0022 | 0.0002 | 0.0 | 0.0 | 0.0 |
| 49 | 0.0 | 0.0 | 0.0002 | 0.0 | 0.0006 | 0.0002 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 51 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 53 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

TRANSITION-PROBABILITY MATRIX
NY BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9514 | 0.9882 | 0.9982 | 0.9991 | 1.0000 |
| 1 | 0.0 | 0.0 | 0.0 | 0.3244 | 0.6971 | 0.8891 | 0.9693 | 0.9938 | 1.0000 |
| 2 | 0.0 | 0.0 | 0.0588 | 0.3573 | 0.6118 | 0.8222 | 0.9480 | 0.9955 | 1.0000 |
| 3 | 0.0 | 0.0051 | 0.1616 | 0.3582 | 0.6036 | 0.7888 | 0.9586 | 0.9950 | 1.0000 |
| 4 | 0.0 | 0.0385 | 0.1754 | 0.3555 | 0.5864 | 0.8045 | 0.9507 | 0.9822 | 1.0000 |
| 5 | 0.0038 | 0.0606 | 0.1902 | 0.3716 | 0.5690 | 0.8120 | 0.9298 | 0.9805 | 1.0000 |
| 6 | 0.0156 | 0.0719 | 0.1938 | 0.3410 | 0.5955 | 0.8003 | 0.9437 | 0.9903 | 1.0000 |
| 7 | 0.0183 | 0.0825 | 0.1844 | 0.3429 | 0.6064 | 0.8248 | 0.9580 | 0.9960 | 1.0000 |
| 8 | 0.0258 | 0.0822 | 0.1622 | 0.3725 | 0.5897 | 0.8285 | 0.9583 | 0.9892 | 1.0000 |
| 9 | 0.0298 | 0.0681 | 0.1883 | 0.3491 | 0.6000 | 0.8320 | 0.9539 | 0.9857 | 1.0000 |
| 10 | 0.0216 | 0.0638 | 0.1738 | 0.3304 | 0.5958 | 0.8540 | 0.9537 | 0.9887 | 1.0000 |
| 11 | 0.0177 | 0.0770 | 0.1578 | 0.3549 | 0.6312 | 0.8574 | 0.9603 | 0.9960 | 1.0000 |
| 12 | 0.0254 | 0.0681 | 0.1601 | 0.3372 | 0.6303 | 0.8543 | 0.9738 | 0.9964 | 1.0000 |
| 13 | 0.0264 | 0.0573 | 0.1464 | 0.3409 | 0.6241 | 0.8798 | 0.9736 | 0.9900 | 1.0000 |
| 14 | 0.0206 | 0.0569 | 0.1448 | 0.3397 | 0.6436 | 0.8903 | 0.9660 | 0.9876 | 1.0000 |
| 15 | 0.0154 | 0.0600 | 0.1555 | 0.3107 | 0.6475 | 0.8798 | 0.9605 | 0.9900 | 1.0000 |
| 16 | 0.0208 | 0.0604 | 0.1257 | 0.3067 | 0.6550 | 0.8882 | 0.9650 | 0.9955 | 1.0000 |
| 17 | 0.0238 | 0.0542 | 0.1209 | 0.3270 | 0.6546 | 0.8804 | 0.9762 | 0.9981 | 1.0000 |
| 18 | 0.0227 | 0.0479 | 0.1336 | 0.3252 | 0.6550 | 0.8971 | 0.9831 | 0.9969 | 1.0000 |
| 19 | 0.0155 | 0.0461 | 0.1340 | 0.3124 | 0.6541 | 0.9048 | 0.9759 | 0.9915 | 1.0000 |
| 20 | 0.0148 | 0.0575 | 0.1290 | 0.2947 | 0.6625 | 0.8950 | 0.9632 | 0.9913 | 1.0000 |
| 21 | 0.0203 | 0.0606 | 0.1178 | 0.2998 | 0.6520 | 0.8747 | 0.9571 | 0.9961 | 1.0000 |
| 22 | 0.0256 | 0.0534 | 0.1059 | 0.3247 | 0.6492 | 0.8706 | 0.9711 | 0.9994 | 1.0000 |
| 23 | 0.0218 | 0.0443 | 0.1313 | 0.3494 | 0.6537 | 0.8906 | 0.9888 | 1.0000 | 1.0000 |
| 24 | 0.0165 | 0.0431 | 0.1668 | 0.3517 | 0.6674 | 0.9146 | 0.9897 | 1.0000 | 1.0000 |
| 25 | 0.0133 | 0.0640 | 0.1607 | 0.3370 | 0.6597 | 0.9136 | 0.9779 | 1.0000 | 1.0000 |
| 26 | 0.0180 | 0.0612 | 0.1394 | 0.3150 | 0.6493 | 0.8873 | 0.9703 | 1.0000 | 1.0000 |
| 27 | 0.0221 | 0.0526 | 0.1128 | 0.3230 | 0.6335 | 0.8693 | 0.9753 | 1.0000 | 1.0000 |
| 28 | 0.0195 | 0.0344 | 0.1159 | 0.3350 | 0.6576 | 0.8926 | 0.9907 | 1.0000 | 1.0000 |
| 29 | 0.0134 | 0.0392 | 0.1522 | 0.3693 | 0.6908 | 0.9304 | 0.9889 | 1.0000 | 1.0000 |
| 30 | 0.0082 | 0.0548 | 0.1662 | 0.3500 | 0.6641 | 0.8977 | 0.9751 | 1.0000 | 1.0000 |
| 31 | 0.0099 | 0.0485 | 0.1089 | 0.3460 | 0.6587 | 0.8864 | 0.9909 | 1.0000 | 1.0000 |

TRANSITION-PROBABILITY MATRIX (CONTINUED)
NY BUSES: FWY & NFWY COMPOSITE

| MPH | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 0.0142 | 0.0330 | 0.1280 | 0.3728 | 0.6775 | 0.9177 | 0.9959 | 1.0000 | 1.0000 |
| 33 | 0.0131 | 0.0338 | 0.1533 | 0.3618 | 0.6986 | 0.9464 | 0.9994 | 1.0000 | 1.0000 |
| 34 | 0.0072 | 0.0640 | 0.1381 | 0.3072 | 0.6784 | 0.9367 | 0.9986 | 1.0000 | 1.0000 |
| 35 | 0.0126 | 0.0418 | 0.1002 | 0.3044 | 0.6396 | 0.8730 | 1.0000 | 1.0000 | 1.0000 |
| 36 | 0.0109 | 0.0271 | 0.0796 | 0.2869 | 0.6462 | 0.8896 | 1.0000 | 1.0000 | 1.0000 |
| 37 | 0.0137 | 0.0221 | 0.1084 | 0.3032 | 0.7147 | 0.9579 | 1.0000 | 1.0000 | 1.0000 |
| 38 | 0.0025 | 0.0433 | 0.1557 | 0.3263 | 0.7021 | 0.9555 | 1.0000 | 1.0000 | 1.0000 |
| 39 | 0.0057 | 0.0681 | 0.1362 | 0.2922 | 0.6738 | 0.9021 | 1.0000 | 1.0000 | 1.0000 |
| 40 | 0.0141 | 0.0246 | 0.0827 | 0.3116 | 0.6602 | 0.8926 | 1.0000 | 1.0000 | 1.0000 |
| 41 | 0.0143 | 0.0190 | 0.1283 | 0.3397 | 0.6817 | 0.9216 | 1.0000 | 1.0000 | 1.0000 |
| 42 | 0.0052 | 0.0260 | 0.1636 | 0.2961 | 0.6727 | 0.9455 | 1.0000 | 1.0000 | 1.0000 |
| 43 | 0.0022 | 0.0583 | 0.0972 | 0.2851 | 0.6393 | 0.9201 | 1.0000 | 1.0000 | 1.0000 |
| 44 | 0.0049 | 0.0171 | 0.0659 | 0.2585 | 0.5829 | 0.8829 | 1.0000 | 1.0000 | 1.0000 |
| 45 | 0.0069 | 0.0138 | 0.1246 | 0.3114 | 0.6332 | 0.9308 | 1.0000 | 1.0000 | 1.0000 |
| 46 | 0.0 | 0.1088 | 0.3627 | 0.4767 | 0.8135 | 0.9948 | 1.0000 | 1.0000 | 1.0000 |
| 47 | 0.0 | 0.2478 | 0.3628 | 0.4513 | 0.8850 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 48 | 0.0 | 0.0 | 0.0500 | 0.3500 | 0.9500 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 49 | 0.0 | 0.0 | 0.2000 | 0.2000 | 0.8000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 51 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 53 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

NY BUSES: FWY & NFWY COMPOSITE

THE STATISTICS FOR CYCLE 2143765149 ARE AS FOLLOWS:

KOLMOGOROV-SMIRNOV DIFFERENCES:

| | DIFFERENCE | SL |
|---|---|---|
| MATRIX: | 0.0125 | 0.993 |
| CRUISE: | 0.0241 | 0.361 |
| ACCEL: | 0.0377 | 0.793 |
| DECEL: | 0.0209 | 1.000 |
| SPEED: | 0.0195 | 0.757 |
| DEL SPD: | 0.0085 | 1.000 |

SUMMARY PERCENTAGE MEASURES:

| | INPUT | CYCLE |
|---|---|---|
| IDLE: | 33.15 | 33.08 |
| CRUISE: | 19.27 | 19.56 * |
| ACCEL: | 25.61 | 24.94 |
| DECEL: | 21.98 | 22.42 |

| | |
|---|---|
| AVERAGE SPEED FOR INPUT MATRIX: | 8.65 MPH |
| AVERAGE SPEED FOR CYCLE: | 8.77 MPH |
| CYCLE DISTANCE: | 2.51 MILES |
| CYCLE DURATION: | 17.15 MINUTES |

* THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE.

DRIVING SCHEDULE FOR CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL

PAGE 1 OF 6

| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | |
| 1 | 0 | 51 | 0 | 101 | 10 | 151 | 0 |
| 2 | 0 | 52 | 0 | 102 | 11 | 152 | 0 |
| 3 | 0 | 53 | 0 | 103 | 7 | 153 | 1 |
| 4 | 0 | 54 | 0 | 104 | 6 | 154 | 1 |
| 5 | 0 | 55 | 0 | 105 | 6 | 155 | 2 |
| 6 | 0 | 56 | 0 | 106 | 4 | 156 | 4 |
| 7 | 0 | 57 | 0 | 107 | 3 | 157 | 2 |
| 8 | 0 | 58 | 0 | 108 | 2 | 158 | 1 |
| 9 | 0 | 59 | 0 | 109 | 4 | 159 | 2 |
| 10 | 0 | 60 | 0 | 110 | 5 | 160 | 2 |
| 11 | 1 | 61 | 0 | 111 | 3 | 161 | 3 |
| 12 | 0 | 62 | 0 | 112 | 3 | 162 | 2 |
| 13 | 0 | 63 | 0 | 113 | 3 | 163 | 4 |
| 14 | 0 | 64 | 1 | 114 | 1 | 164 | 2 |
| 15 | 0 | 65 | 1 | 115 | 0 | 165 | 2 |
| 16 | 0 | 66 | 0 | 116 | 0 | 166 | 4 |
| 17 | 0 | 67 | 0 | 117 | 0 | 167 | 2 |
| 18 | 0 | 68 | 0 | 118 | 0 | 168 | 3 |
| 19 | 0 | 69 | 2 | 119 | 0 | 169 | 1 |
| 20 | 0 | 70 | 1 | 120 | 0 | 170 | 0 |
| 21 | 0 | 71 | 0 | 121 | 0 | 171 | 0 |
| 22 | 0 | 72 | 0 | 122 | 0 | 172 | 0 |
| 23 | 0 | 73 | 1 | 123 | 0 | 173 | 0 |
| 24 | 0 | 74 | 0 | 124 | 0 | 174 | 1 |
| 25 | 0 | 75 | 0 | 125 | 0 | 175 | 4 |
| 26 | 0 | 76 | 0 | 126 | 0 | 176 | 1 |
| 27 | 0 | 77 | 0 | 127 | 0 | 177 | 0 |
| 28 | 0 | 78 | 0 | 128 | 0 | 178 | 0 |
| 29 | 0 | 79 | 0 | 129 | 0 | 179 | 0 |
| 30 | 0 | 80 | 0 | 130 | 0 | 180 | 0 |
| 31 | 0 | 81 | 0 | 131 | 0 | 181 | 0 |
| 32 | 0 | 82 | 0 | 132 | 0 | 182 | 0 |
| 33 | 0 | 83 | 0 | 133 | 0 | 183 | 0 |
| 34 | 0 | 84 | 0 | 134 | 0 | 184 | 0 |
| 35 | 0 | 85 | 0 | 135 | 0 | 185 | 0 |
| 36 | 0 | 86 | 1 | 136 | 0 | 186 | 0 |
| 37 | 0 | 87 | 1 | 137 | 0 | 187 | 0 |
| 38 | 0 | 88 | 2 | 138 | 0 | 188 | 0 |
| 39 | 0 | 89 | 1 | 139 | 0 | 189 | 0 |
| 40 | 0 | 90 | 4 | 140 | 1 | 190 | 0 |
| 41 | 0 | 91 | 3 | 141 | 0 | 191 | 0 |
| 42 | 0 | 92 | 5 | 142 | 0 | 192 | 0 |
| 43 | 0 | 93 | 6 | 143 | 0 | 193 | 0 |
| 44 | 0 | 94 | 6 | 144 | 0 | 194 | 0 |
| 45 | 0 | 95 | 4 | 145 | 0 | 195 | 1 |
| 46 | 0 | 96 | 5 | 146 | 0 | 196 | 2 |
| 47 | 0 | 97 | 4 | 147 | 0 | 197 | 2 |
| 48 | 0 | 98 | 4 | 148 | 0 | 198 | 4 |
| 49 | 0 | 99 | 5 | 149 | 0 | 199 | 1 |
| 50 | 0 | 100 | 8 | 150 | 0 | 200 | 1 |

DRIVING SCHEDULE FOR CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 0 | 251 | 2 | 301 | 0 | 351 | 0 |
| 202 | 0 | 252 | 0 | 302 | 0 | 352 | 0 |
| 203 | 0 | 253 | 0 | 303 | 0 | 353 | 0 |
| 204 | 0 | 254 | 0 | 304 | 0 | 354 | 0 |
| 205 | 0 | 255 | 0 | 305 | 1 | 355 | 0 |
| 206 | 0 | 256 | 0 | 306 | 0 | 356 | 0 |
| 207 | 0 | 257 | 0 | 307 | 0 | 357 | 0 |
| 208 | 0 | 258 | 0 | 308 | 0 | 358 | 1 |
| 209 | 0 | 259 | 0 | 309 | 0 | 359 | 2 |
| 210 | 0 | 260 | 0 | 310 | 0 | 360 | 3 |
| 211 | 0 | 261 | 0 | 311 | 0 | 361 | 4 |
| 212 | 0 | 262 | 0 | 312 | 0 | 362 | 3 |
| 213 | 0 | 263 | 0 | 313 | 0 | 363 | 1 |
| 214 | 0 | 264 | 0 | 314 | 0 | 364 | 1 |
| 215 | 0 | 265 | 0 | 315 | 0 | 365 | 0 |
| 216 | 0 | 266 | 0 | 316 | 0 | 366 | 0 |
| 217 | 0 | 267 | 0 | 317 | 0 | 367 | 0 |
| 218 | 0 | 268 | 0 | 318 | 0 | 368 | 0 |
| 219 | 0 | 269 | 0 | 319 | 0 | 369 | 0 |
| 220 | 0 | 270 | 0 | 320 | 0 | 370 | 0 |
| 221 | 1 | 271 | 0 | 321 | 0 | 371 | 0 |
| 222 | 0 | 272 | 0 | 322 | 0 | 372 | 0 |
| 223 | 0 | 273 | 0 | 323 | 0 | 373 | 0 |
| 224 | 0 | 274 | 1 | 324 | 0 | 374 | 0 |
| 225 | 0 | 275 | 1 | 325 | 0 | 375 | 0 |
| 226 | 0 | 276 | 1 | 326 | 0 | 376 | 0 |
| 227 | 0 | 277 | 2 | 327 | 0 | 377 | 1 |
| 228 | 0 | 278 | 2 | 328 | 0 | 378 | 1 |
| 229 | 0 | 279 | 1 | 329 | 0 | 379 | 0 |
| 230 | 1 | 280 | 1 | 330 | 0 | 380 | 0 |
| 231 | 2 | 281 | 2 | 331 | 0 | 381 | 0 |
| 232 | 2 | 282 | 4 | 332 | 0 | 382 | 0 |
| 233 | 1 | 283 | 4 | 333 | 0 | 383 | 0 |
| 234 | 1 | 284 | 6 | 334 | 0 | 384 | 0 |
| 235 | 1 | 285 | 2 | 335 | 0 | 385 | 2 |
| 236 | 2 | 286 | 3 | 336 | 0 | 386 | 1 |
| 237 | 3 | 287 | 2 | 337 | 0 | 387 | 2 |
| 238 | 3 | 288 | 3 | 338 | 0 | 388 | 3 |
| 239 | 1 | 289 | 4 | 339 | 0 | 389 | 3 |
| 240 | 1 | 290 | 3 | 340 | 0 | 390 | 1 |
| 241 | 0 | 291 | 3 | 341 | 0 | 391 | 0 |
| 242 | 0 | 292 | 4 | 342 | 0 | 392 | 0 |
| 243 | 0 | 293 | 3 | 343 | 0 | 393 | 0 |
| 244 | 0 | 294 | 0 | 344 | 0 | 394 | 0 |
| 245 | 0 | 295 | 0 | 345 | 0 | 395 | 0 |
| 246 | 0 | 296 | 0 | 346 | 0 | 396 | 0 |
| 247 | 0 | 297 | 0 | 347 | 0 | 397 | 0 |
| 248 | 0 | 298 | 0 | 348 | 0 | 398 | 0 |
| 249 | 0 | 299 | 0 | 349 | 0 | 399 | 0 |
| 250 | 0 | 300 | 0 | 350 | 0 | 400 | 0 |

DRIVING SCHEDULE FOR CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 401 | 0 | 451 | 7 | 501 | 13 | 551 | 13 |
| 402 | 0 | 452 | 5 | 502 | 15 | 552 | 15 |
| 403 | 0 | 453 | 6 | 503 | 16 | 553 | 15 |
| 404 | 0 | 454 | 4 | 504 | 15 | 554 | 16 |
| 405 | 0 | 455 | 5 | 505 | 16 | 555 | 16 |
| 406 | 2 | 456 | 4 | 506 | 19 | 556 | 16 |
| 407 | 1 | 457 | 2 | 507 | 18 | 557 | 17 |
| 408 | 1 | 458 | 2 | 508 | 19 | 558 | 17 |
| 409 | 1 | 459 | 2 | 509 | 15 | 559 | 19 |
| 410 | 1 | 460 | 5 | 510 | 15 | 560 | 19 |
| 411 | 3 | 461 | 5 | 511 | 12 | 561 | 17 |
| 412 | 2 | 462 | 7 | 512 | 9 | 562 | 17 |
| 413 | 3 | 463 | 4 | 513 | 6 | 563 | 17 |
| 414 | 5 | 464 | 3 | 514 | 7 | 564 | 19 |
| 415 | 9 | 465 | 3 | 515 | 7 | 565 | 22 |
| 416 | 8 | 466 | 3 | 516 | 8 | 566 | 21 |
| 417 | 10 | 467 | 5 | 517 | 9 | 567 | 21 |
| 418 | 11 | 468 | 2 | 518 | 9 | 568 | 20 |
| 419 | 10 | 469 | 1 | 519 | 7 | 569 | 20 |
| 420 | 11 | 470 | 0 | 520 | 7 | 570 | 23 |
| 421 | 11 | 471 | 0 | 521 | 10 | 571 | 24 |
| 422 | 12 | 472 | 0 | 522 | 9 | 572 | 21 |
| 423 | 13 | 473 | 0 | 523 | 11 | 573 | 24 |
| 424 | 12 | 474 | 0 | 524 | 12 | 574 | 24 |
| 425 | 12 | 475 | 0 | 525 | 12 | 575 | 22 |
| 426 | 14 | 476 | 0 | 526 | 11 | 576 | 23 |
| 427 | 16 | 477 | 0 | 527 | 11 | 577 | 25 |
| 428 | 15 | 478 | 2 | 528 | 9 | 578 | 26 |
| 429 | 14 | 479 | 3 | 529 | 9 | 579 | 24 |
| 430 | 13 | 480 | 5 | 530 | 10 | 580 | 25 |
| 431 | 12 | 481 | 4 | 531 | 10 | 581 | 26 |
| 432 | 12 | 482 | 7 | 532 | 10 | 582 | 28 |
| 433 | 11 | 483 | 9 | 533 | 9 | 583 | 26 |
| 434 | 12 | 484 | 8 | 534 | 9 | 584 | 26 |
| 435 | 13 | 485 | 7 | 535 | 8 | 585 | 26 |
| 436 | 13 | 486 | 8 | 536 | 7 | 586 | 26 |
| 437 | 13 | 487 | 9 | 537 | 7 | 587 | 23 |
| 438 | 13 | 488 | 9 | 538 | 9 | 588 | 23 |
| 439 | 12 | 489 | 10 | 539 | 13 | 589 | 24 |
| 440 | 14 | 490 | 10 | 540 | 17 | 590 | 25 |
| 441 | 14 | 491 | 11 | 541 | 15 | 591 | 22 |
| 442 | 14 | 492 | 8 | 542 | 15 | 592 | 22 |
| 443 | 14 | 493 | 7 | 543 | 15 | 593 | 23 |
| 444 | 15 | 494 | 8 | 544 | 17 | 594 | 24 |
| 445 | 12 | 495 | 8 | 545 | 16 | 595 | 24 |
| 446 | 10 | 496 | 6 | 546 | 16 | 596 | 23 |
| 447 | 8 | 497 | 8 | 547 | 15 | 597 | 23 |
| 448 | 8 | 498 | 11 | 548 | 12 | 598 | 24 |
| 449 | 10 | 499 | 11 | 549 | 13 | 599 | 23 |
| 450 | 7 | 500 | 12 | 550 | 13 | 600 | 21 |

DRIVING SCHEDULE FOR CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 601 | 19 | 651 | 15 | 701 | 22 | 751 | 16 |
| 602 | 19 | 652 | 14 | 702 | 21 | 752 | 15 |
| 603 | 20 | 653 | 13 | 703 | 21 | 753 | 14 |
| 604 | 21 | 654 | 14 | 704 | 20 | 754 | 14 |
| 605 | 21 | 655 | 12 | 705 | 21 | 755 | 14 |
| 606 | 20 | 656 | 13 | 706 | 22 | 756 | 14 |
| 607 | 21 | 657 | 14 | 707 | 22 | 757 | 14 |
| 608 | 21 | 658 | 13 | 708 | 21 | 758 | 15 |
| 609 | 21 | 659 | 13 | 709 | 21 | 759 | 16 |
| 610 | 22 | 660 | 12 | 710 | 21 | 760 | 16 |
| 611 | 22 | 661 | 12 | 711 | 22 | 761 | 16 |
| 612 | 22 | 662 | 13 | 712 | 22 | 762 | 17 |
| 613 | 21 | 663 | 13 | 713 | 18 | 763 | 13 |
| 614 | 20 | 664 | 14 | 714 | 18 | 764 | 14 |
| 615 | 18 | 665 | 15 | 715 | 18 | 765 | 15 |
| 616 | 16 | 666 | 16 | 716 | 17 | 766 | 14 |
| 617 | 13 | 667 | 19 | 717 | 19 | 767 | 14 |
| 618 | 12 | 668 | 19 | 718 | 20 | 768 | 14 |
| 619 | 14 | 669 | 19 | 719 | 20 | 769 | 14 |
| 620 | 11 | 670 | 20 | 720 | 18 | 770 | 14 |
| 621 | 11 | 671 | 21 | 721 | 14 | 771 | 15 |
| 622 | 9 | 672 | 20 | 722 | 11 | 772 | 14 |
| 623 | 8 | 673 | 20 | 723 | 10 | 773 | 16 |
| 624 | 9 | 674 | 21 | 724 | 11 | 774 | 17 |
| 625 | 7 | 675 | 23 | 725 | 11 | 775 | 17 |
| 626 | 7 | 676 | 25 | 726 | 10 | 776 | 17 |
| 627 | 7 | 677 | 23 | 727 | 11 | 777 | 18 |
| 628 | 8 | 678 | 24 | 728 | 7 | 778 | 19 |
| 629 | 10 | 679 | 24 | 729 | 8 | 779 | 20 |
| 630 | 11 | 680 | 26 | 730 | 9 | 780 | 18 |
| 631 | 9 | 681 | 26 | 731 | 8 | 781 | 20 |
| 632 | 10 | 682 | 26 | 732 | 6 | 782 | 21 |
| 633 | 11 | 683 | 24 | 733 | 8 | 783 | 19 |
| 634 | 12 | 684 | 24 | 734 | 6 | 784 | 21 |
| 635 | 12 | 685 | 26 | 735 | 8 | 785 | 22 |
| 636 | 13 | 686 | 26 | 736 | 10 | 786 | 20 |
| 637 | 13 | 687 | 26 | 737 | 11 | 787 | 21 |
| 638 | 14 | 688 | 25 | 738 | 11 | 788 | 20 |
| 639 | 14 | 689 | 26 | 739 | 11 | 789 | 17 |
| 640 | 14 | 690 | 26 | 740 | 13 | 790 | 17 |
| 641 | 18 | 691 | 29 | 741 | 14 | 791 | 16 |
| 642 | 17 | 692 | 30 | 742 | 14 | 792 | 15 |
| 643 | 17 | 693 | 30 | 743 | 16 | 793 | 14 |
| 644 | 16 | 694 | 28 | 744 | 16 | 794 | 14 |
| 645 | 16 | 695 | 24 | 745 | 14 | 795 | 12 |
| 646 | 17 | 696 | 23 | 746 | 14 | 796 | 10 |
| 647 | 17 | 697 | 23 | 747 | 15 | 797 | 6 |
| 648 | 17 | 698 | 22 | 748 | 18 | 798 | 8 |
| 649 | 16 | 699 | 23 | 749 | 18 | 799 | 7 |
| 650 | 15 | 700 | 23 | 750 | 17 | 800 | 7 |

DRIVING SCHEDULE FOR CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 801 | 7 | 851 | 7 | 901 | 9 | 951 | 29 |
| 802 | 8 | 852 | 9 | 902 | 10 | 952 | 29 |
| 803 | 7 | 853 | 12 | 903 | 10 | 953 | 29 |
| 804 | 10 | 854 | 14 | 904 | 11 | 954 | 30 |
| 805 | 8 | 855 | 14 | 905 | 10 | 955 | 30 |
| 806 | 6 | 856 | 13 | 906 | 10 | 956 | 31 |
| 807 | 5 | 857 | 13 | 907 | 10 | 957 | 32 |
| 808 | 6 | 858 | 12 | 908 | 11 | 958 | 31 |
| 809 | 4 | 859 | 13 | 909 | 11 | 959 | 30 |
| 810 | 4 | 860 | 13 | 910 | 12 | 960 | 27 |
| 811 | 7 | 861 | 13 | 911 | 13 | 961 | 27 |
| 812 | 8 | 862 | 14 | 912 | 12 | 962 | 28 |
| 813 | 7 | 863 | 13 | 913 | 12 | 963 | 29 |
| 814 | 7 | 864 | 15 | 914 | 12 | 964 | 30 |
| 815 | 5 | 865 | 13 | 915 | 12 | 965 | 31 |
| 816 | 3 | 866 | 12 | 916 | 13 | 966 | 31 |
| 817 | 3 | 867 | 13 | 917 | 12 | 967 | 31 |
| 818 | 3 | 868 | 13 | 918 | 11 | 968 | 33 |
| 819 | 5 | 869 | 15 | 919 | 10 | 969 | 33 |
| 820 | 6 | 870 | 16 | 920 | 10 | 970 | 34 |
| 821 | 7 | 871 | 16 | 921 | 11 | 971 | 35 |
| 822 | 4 | 872 | 19 | 922 | 13 | 972 | 34 |
| 823 | 6 | 873 | 20 | 923 | 13 | 973 | 36 |
| 824 | 6 | 874 | 19 | 924 | 14 | 974 | 36 |
| 825 | 6 | 875 | 19 | 925 | 18 | 975 | 36 |
| 826 | 6 | 876 | 19 | 926 | 18 | 976 | 36 |
| 827 | 7 | 877 | 18 | 927 | 20 | 977 | 35 |
| 828 | 7 | 878 | 17 | 928 | 21 | 978 | 35 |
| 829 | 8 | 879 | 15 | 929 | 21 | 979 | 34 |
| 830 | 7 | 880 | 15 | 930 | 21 | 980 | 34 |
| 831 | 7 | 881 | 13 | 931 | 21 | 981 | 34 |
| 832 | 7 | 882 | 13 | 932 | 22 | 982 | 35 |
| 833 | 10 | 883 | 14 | 933 | 22 | 983 | 33 |
| 834 | 12 | 884 | 13 | 934 | 22 | 984 | 33 |
| 835 | 9 | 885 | 11 | 935 | 23 | 985 | 31 |
| 836 | 10 | 886 | 12 | 936 | 21 | 986 | 32 |
| 837 | 11 | 887 | 14 | 937 | 19 | 987 | 33 |
| 838 | 9 | 888 | 14 | 938 | 19 | 988 | 33 |
| 839 | 8 | 889 | 14 | 939 | 18 | 989 | 31 |
| 840 | 8 | 890 | 14 | 940 | 21 | 990 | 30 |
| 841 | 9 | 891 | 11 | 941 | 21 | 991 | 31 |
| 842 | 11 | 892 | 10 | 942 | 22 | 992 | 33 |
| 843 | 9 | 893 | 10 | 943 | 24 | 993 | 33 |
| 844 | 9 | 894 | 13 | 944 | 27 | 994 | 32 |
| 845 | 9 | 895 | 11 | 945 | 26 | 995 | 31 |
| 846 | 5 | 896 | 12 | 946 | 28 | 996 | 31 |
| 847 | 6 | 897 | 12 | 947 | 29 | 997 | 33 |
| 848 | 6 | 898 | 12 | 948 | 32 | 998 | 34 |
| 849 | 8 | 899 | 13 | 949 | 31 | 999 | 32 |
| 850 | 7 | 900 | 10 | 950 | 30 | 1000 | 31 |

DRIVING SCHEDULE FOR CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE .864-SEC INTERVAL



| RECORD | MPH | RECORD | MPH | RECORD | MPH | RECORD | MPH |
|---|---|---|---|---|---|---|---|
| 1001 | 31 | 1049 | 6 | 1097 | 0 | 1145 | 0 |
| 1002 | 32 | 1050 | 4 | 1098 | 0 | 1146 | 0 |
| 1003 | 31 | 1051 | 3 | 1099 | 0 | 1147 | 0 |
| 1004 | 27 | 1052 | 4 | 1100 | 0 | 1148 | 0 |
| 1005 | 26 | 1053 | 3 | 1101 | 0 | 1149 | 0 |
| 1006 | 27 | 1054 | 2 | 1102 | 0 | 1150 | 0 |
| 1007 | 27 | 1055 | 0 | 1103 | 0 | 1151 | 0 |
| 1008 | 27 | 1056 | 0 | 1104 | 0 | 1152 | 0 |
| 1009 | 25 | 1057 | 0 | 1105 | 0 | 1153 | 0 |
| 1010 | 22 | 1058 | 0 | 1106 | 0 | 1154 | 0 |
| 1011 | 22 | 1059 | 0 | 1107 | 0 | 1155 | 0 |
| 1012 | 19 | 1060 | 0 | 1108 | 1 | 1156 | 0 |
| 1013 | 19 | 1061 | 0 | 1109 | 2 | 1157 | 0 |
| 1014 | 17 | 1062 | 0 | 1110 | 4 | 1158 | 0 |
| 1015 | 18 | 1063 | 0 | 1111 | 4 | 1159 | 0 |
| 1016 | 18 | 1064 | 0 | 1112 | 2 | 1160 | 0 |
| 1017 | 19 | 1065 | 0 | 1113 | 1 | 1161 | 0 |
| 1018 | 19 | 1066 | 0 | 1114 | 3 | 1162 | 0 |
| 1019 | 20 | 1067 | 0 | 1115 | 2 | 1163 | 0 |
| 1020 | 21 | 1068 | 0 | 1116 | 5 | 1164 | 0 |
| 1021 | 20 | 1069 | 0 | 1117 | 4 | 1165 | 0 |
| 1022 | 16 | 1070 | 0 | 1118 | 4 | 1166 | 0 |
| 1023 | 16 | 1071 | 0 | 1119 | 6 | 1167 | 0 |
| 1024 | 16 | 1072 | 0 | 1120 | 6 | 1168 | 0 |
| 1025 | 15 | 1073 | 0 | 1121 | 8 | 1169 | 0 |
| 1026 | 15 | 1074 | 0 | 1122 | 8 | 1170 | 0 |
| 1027 | 15 | 1075 | 0 | 1123 | 9 | 1171 | 0 |
| 1028 | 15 | 1076 | 0 | 1124 | 10 | 1172 | 0 |
| 1029 | 16 | 1077 | 0 | 1125 | 9 | 1173 | 0 |
| 1030 | 17 | 1078 | 0 | 1126 | 7 | 1174 | 0 |
| 1031 | 16 | 1079 | 0 | 1127 | 8 | 1175 | 0 |
| 1032 | 16 | 1080 | 0 | 1128 | 9 | 1176 | 0 |
| 1033 | 16 | 1081 | 0 | 1129 | 8 | 1177 | 0 |
| 1034 | 17 | 1082 | 0 | 1130 | 5 | 1178 | 0 |
| 1035 | 15 | 1083 | 0 | 1131 | 3 | 1179 | 0 |
| 1036 | 12 | 1084 | 0 | 1132 | 2 | 1180 | 0 |
| 1037 | 11 | 1085 | 0 | 1133 | 0 | 1181 | 0 |
| 1038 | 10 | 1086 | 0 | 1134 | 0 | 1182 | 0 |
| 1039 | 10 | 1087 | 0 | 1135 | 0 | 1183 | 0 |
| 1040 | 10 | 1088 | 0 | 1136 | 0 | 1184 | 0 |
| 1041 | 9 | 1089 | 0 | 1137 | 0 | 1185 | 0 |
| 1042 | 9 | 1090 | 0 | 1138 | 0 | 1186 | 0 |
| 1043 | 7 | 1091 | 0 | 1139 | 0 | 1187 | 0 |
| 1044 | 6 | 1092 | 0 | 1140 | 0 | 1188 | 0 |
| 1045 | 7 | 1093 | 0 | 1141 | 0 | 1189 | 0 |
| 1046 | 5 | 1094 | 0 | 1142 | 0 | 1190 | 0 |
| 1047 | 4 | 1095 | 0 | 1143 | 0 | 1191 | 0 |
| 1048 | 5 | 1096 | 0 | 1144 | 0 | | |

DRIVING SCHEDULE FOR
CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | | | | | | |
| 1 | 0.0 | 51 | 0.0 | 101 | 0.0 | 151 | 3.31 |
| 2 | 0.0 | 52 | 0.0 | 102 | 0.0 | 152 | 1.22 |
| 3 | 0.0 | 53 | 0.0 | 103 | 0.0 | 153 | 0.0 |
| 4 | 0.0 | 54 | 0.0 | 104 | 0.0 | 154 | 0.0 |
| 5 | 0.0 | 55 | 0.66 | 105 | 0.0 | 155 | 0.0 |
| 6 | 0.0 | 56 | 1.00 | 106 | 0.0 | 156 | 0.0 |
| 7 | 0.0 | 57 | 0.03 | 107 | 0.0 | 157 | 0.0 |
| 8 | 0.0 | 58 | 0.0 | 108 | 0.0 | 158 | 0.0 |
| 9 | 0.42 | 59 | 0.57 | 109 | 0.0 | 159 | 0.0 |
| 10 | 0.43 | 60 | 1.56 | 110 | 0.0 | 160 | 0.0 |
| 11 | 0.0 | 61 | 0.40 | 111 | 0.0 | 161 | 0.0 |
| 12 | 0.0 | 62 | 0.0 | 112 | 0.0 | 162 | 0.0 |
| 13 | 0.0 | 63 | 0.92 | 113 | 0.0 | 163 | 0.0 |
| 14 | 0.0 | 64 | 0.0 | 114 | 0.0 | 164 | 0.0 |
| 15 | 0.0 | 65 | 0.0 | 115 | 0.0 | 165 | 0.0 |
| 16 | 0.0 | 66 | 0.0 | 116 | 0.0 | 166 | 0.0 |
| 17 | 0.0 | 67 | 0.0 | 117 | 0.0 | 167 | 0.0 |
| 18 | 0.0 | 68 | 0.0 | 118 | 0.0 | 168 | 0.44 |
| 19 | 0.0 | 69 | 0.0 | 119 | 0.0 | 169 | 1.60 |
| 20 | 0.0 | 70 | 0.0 | 120 | 0.0 | 170 | 2.00 |
| 21 | 0.0 | 71 | 0.0 | 121 | 0.95 | 171 | 3.83 |
| 22 | 0.0 | 72 | 0.0 | 122 | 0.0 | 172 | 1.00 |
| 23 | 0.0 | 73 | 0.0 | 123 | 0.0 | 173 | 0.77 |
| 24 | 0.0 | 74 | 0.65 | 124 | 0.0 | 174 | 0.0 |
| 25 | 0.0 | 75 | 1.00 | 125 | 0.0 | 175 | 0.0 |
| 26 | 0.0 | 76 | 1.96 | 126 | 0.0 | 176 | 0.0 |
| 27 | 0.0 | 77 | 1.36 | 127 | 0.0 | 177 | 0.0 |
| 28 | 0.0 | 78 | 3.72 | 128 | 0.0 | 178 | 0.0 |
| 29 | 0.0 | 79 | 3.87 | 129 | 0.0 | 179 | 0.0 |
| 30 | 0.0 | 80 | 5.59 | 130 | 0.0 | 180 | 0.0 |
| 31 | 0.0 | 81 | 6.00 | 131 | 0.0 | 181 | 0.0 |
| 32 | 0.0 | 82 | 4.19 | 132 | 0.78 | 182 | 0.0 |
| 33 | 0.0 | 83 | 4.94 | 133 | 1.00 | 183 | 0.0 |
| 34 | 0.0 | 84 | 4.00 | 134 | 2.19 | 184 | 0.0 |
| 35 | 0.0 | 85 | 4.38 | 135 | 3.50 | 185 | 0.0 |
| 36 | 0.0 | 86 | 6.61 | 136 | 1.59 | 186 | 0.0 |
| 37 | 0.0 | 87 | 9.39 | 137 | 1.56 | 187 | 0.0 |
| 38 | 0.0 | 88 | 10.85 | 138 | 2.00 | 188 | 0.0 |
| 39 | 0.0 | 89 | 6.99 | 139 | 2.88 | 189 | 0.0 |
| 40 | 0.0 | 90 | 6.00 | 140 | 2.07 | 190 | 0.0 |
| 41 | 0.0 | 91 | 5.35 | 141 | 3.61 | 191 | 0.94 |
| 42 | 0.0 | 92 | 3.52 | 142 | 2.00 | 192 | 0.0 |
| 43 | 0.0 | 93 | 2.36 | 143 | 3.02 | 193 | 0.0 |
| 44 | 0.0 | 94 | 3.59 | 144 | 2.67 | 194 | 0.0 |
| 45 | 0.0 | 95 | 4.95 | 145 | 2.82 | 195 | 0.0 |
| 46 | 0.0 | 96 | 3.00 | 146 | 1.04 | 196 | 0.0 |
| 47 | 0.0 | 97 | 3.00 | 147 | 0.0 | 197 | 0.0 |
| 48 | 0.0 | 98 | 2.15 | 148 | 0.0 | 198 | 0.17 |
| 49 | 0.0 | 99 | 0.42 | 149 | 0.0 | 199 | 1.32 |
| 50 | 0.0 | 100 | 0.0 | 150 | 0.61 | 200 | 2.00 |

DRIVING SCHEDULE FOR
CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 201 | 1.36 | 251 | 3.00 | 301 | 0.0 | 351 | 1.75 |
| 202 | 1.00 | 252 | 3.67 | 302 | 0.0 | 352 | 1.00 |
| 203 | 1.00 | 253 | 3.18 | 303 | 0.0 | 353 | 1.00 |
| 204 | 2.11 | 254 | 0.06 | 304 | 0.0 | 354 | 1.00 |
| 205 | 3.00 | 255 | 0.0 | 305 | 0.0 | 355 | 2.76 |
| 206 | 2.15 | 256 | 0.0 | 306 | 0.0 | 356 | 2.04 |
| 207 | 1.00 | 257 | 0.0 | 307 | 0.0 | 357 | 3.39 |
| 208 | 0.26 | 258 | 0.0 | 308 | 0.0 | 358 | 6.41 |
| 209 | 0.0 | 259 | 0.0 | 309 | 0.64 | 359 | 8.49 |
| 210 | 0.0 | 260 | 0.0 | 310 | 1.80 | 360 | 9.33 |
| 211 | 0.0 | 261 | 0.0 | 311 | 2.95 | 361 | 10.82 |
| 212 | 0.0 | 262 | 0.0 | 312 | 3.89 | 362 | 10.02 |
| 213 | 0.0 | 263 | 0.40 | 313 | 2.46 | 363 | 11.00 |
| 214 | 0.0 | 264 | 0.44 | 314 | 1.00 | 364 | 11.30 |
| 215 | 0.0 | 265 | 0.0 | 315 | 0.42 | 365 | 12.45 |
| 216 | 0.00 | 266 | 0.0 | 316 | 0.0 | 366 | 12.39 |
| 217 | 1.69 | 267 | 0.0 | 317 | 0.0 | 367 | 12.00 |
| 218 | 0.0 | 268 | 0.0 | 318 | 0.0 | 368 | 13.85 |
| 219 | 0.0 | 269 | 0.0 | 319 | 0.0 | 369 | 15.92 |
| 220 | 0.0 | 270 | 0.0 | 320 | 0.0 | 370 | 14.76 |
| 221 | 0.0 | 271 | 0.0 | 321 | 0.0 | 371 | 13.60 |
| 222 | 0.0 | 272 | 0.0 | 322 | 0.0 | 372 | 12.44 |
| 223 | 0.0 | 273 | 0.0 | 323 | 0.0 | 373 | 12.00 |
| 224 | 0.0 | 274 | 0.0 | 324 | 0.0 | 374 | 11.13 |
| 225 | 0.0 | 275 | 0.0 | 325 | 0.16 | 375 | 12.03 |
| 226 | 0.0 | 276 | 0.0 | 326 | 1.00 | 376 | 13.00 |
| 227 | 0.0 | 277 | 0.0 | 327 | 0.53 | 377 | 13.00 |
| 228 | 0.0 | 278 | 0.0 | 328 | 0.0 | 378 | 13.00 |
| 229 | 0.0 | 279 | 0.0 | 329 | 0.0 | 379 | 12.34 |
| 230 | 0.0 | 280 | 0.0 | 330 | 0.0 | 380 | 13.63 |
| 231 | 0.0 | 281 | 0.0 | 331 | 0.0 | 381 | 14.00 |
| 232 | 0.0 | 282 | 0.0 | 332 | 0.52 | 382 | 14.00 |
| 233 | 0.0 | 283 | 0.0 | 333 | 1.58 | 383 | 14.29 |
| 234 | 0.0 | 284 | 0.0 | 334 | 1.57 | 384 | 13.67 |
| 235 | 0.0 | 285 | 0.0 | 335 | 2.73 | 385 | 10.80 |
| 236 | 0.15 | 286 | 0.0 | 336 | 3.00 | 386 | 8.48 |
| 237 | 1.00 | 287 | 0.0 | 337 | 0.95 | 387 | 8.00 |
| 238 | 1.00 | 288 | 0.0 | 338 | 0.0 | 388 | 9.78 |
| 239 | 1.62 | 289 | 0.0 | 339 | 0.0 | 389 | 7.00 |
| 240 | 2.00 | 290 | 0.0 | 340 | 0.0 | 390 | 6.22 |
| 241 | 1.06 | 291 | 0.0 | 341 | 0.0 | 391 | 5.55 |
| 242 | 1.09 | 292 | 0.0 | 342 | 0.0 | 392 | 4.59 |
| 243 | 2.50 | 293 | 0.0 | 343 | 0.0 | 393 | 4.86 |
| 244 | 4.00 | 294 | 0.0 | 344 | 0.0 | 394 | 3.96 |
| 245 | 5.13 | 295 | 0.0 | 345 | 0.0 | 395 | 2.00 |
| 246 | 3.11 | 296 | 0.0 | 346 | 0.0 | 396 | 2.00 |
| 247 | 2.88 | 297 | 0.0 | 347 | 0.0 | 397 | 3.47 |
| 248 | 2.04 | 298 | 0.0 | 348 | 0.0 | 398 | 5.00 |
| 249 | 3.19 | 299 | 0.0 | 349 | 0.0 | 399 | 6.61 |
| 250 | 3.65 | 300 | 0.0 | 350 | 0.19 | 400 | 4.11 |

DRIVING SCHEDULE FOR
CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 401 | 3.00 | 451 | 9.01 | 501 | 24.86 | 551 | 13.73 |
| 402 | 3.00 | 452 | 11.15 | 502 | 26.04 | 552 | 14.00 |
| 403 | 3.87 | 453 | 12.00 | 503 | 27.65 | 553 | 14.19 |
| 404 | 3.22 | 454 | 11.54 | 504 | 26.00 | 554 | 17.80 |
| 405 | 1.25 | 455 | 11.00 | 505 | 26.00 | 555 | 17.00 |
| 406 | 0.09 | 456 | 9.44 | 506 | 26.00 | 556 | 16.48 |
| 407 | 0.0 | 457 | 9.00 | 507 | 23.58 | 557 | 16.00 |
| 408 | 0.0 | 458 | 10.00 | 508 | 23.00 | 558 | 16.83 |
| 409 | 0.0 | 459 | 10.00 | 509 | 24.12 | 559 | 17.00 |
| 410 | 0.0 | 460 | 9.59 | 510 | 24.17 | 560 | 16.85 |
| 411 | 0.0 | 461 | 9.00 | 511 | 22.00 | 561 | 15.69 |
| 412 | 0.0 | 462 | 8.28 | 512 | 22.59 | 562 | 15.00 |
| 413 | 2.01 | 463 | 7.12 | 513 | 23.75 | 563 | 14.38 |
| 414 | 3.33 | 464 | 7.07 | 514 | 24.00 | 564 | 13.22 |
| 415 | 4.68 | 465 | 9.78 | 515 | 23.00 | 565 | 13.94 |
| 416 | 5.45 | 466 | 14.41 | 516 | 23.22 | 566 | 12.09 |
| 417 | 8.28 | 467 | 15.98 | 517 | 23.62 | 567 | 13.25 |
| 418 | 8.20 | 468 | 15.00 | 518 | 21.93 | 568 | 13.59 |
| 419 | 7.05 | 469 | 15.00 | 519 | 19.61 | 569 | 13.00 |
| 420 | 8.11 | 470 | 16.96 | 520 | 19.00 | 570 | 12.28 |
| 421 | 9.00 | 471 | 16.00 | 521 | 20.01 | 571 | 12.00 |
| 422 | 9.43 | 472 | 15.70 | 522 | 21.00 | 572 | 13.00 |
| 423 | 10.00 | 473 | 13.64 | 523 | 20.68 | 573 | 13.19 |
| 424 | 10.74 | 474 | 12.61 | 524 | 20.48 | 574 | 14.35 |
| 425 | 8.30 | 475 | 13.00 | 525 | 21.00 | 575 | 15.51 |
| 426 | 7.06 | 476 | 13.00 | 526 | 21.00 | 576 | 18.00 |
| 427 | 8.00 | 477 | 15.00 | 527 | 21.95 | 577 | 19.00 |
| 428 | 7.26 | 478 | 15.24 | 528 | 22.00 | 578 | 19.00 |
| 429 | 7.06 | 479 | 16.00 | 529 | 21.73 | 579 | 20.14 |
| 430 | 10.06 | 480 | 16.00 | 530 | 20.57 | 580 | 20.70 |
| 431 | 11.00 | 481 | 16.71 | 531 | 18.83 | 581 | 20.00 |
| 432 | 12.00 | 482 | 17.00 | 532 | 16.52 | 582 | 20.61 |
| 433 | 13.32 | 483 | 19.00 | 533 | 13.30 | 583 | 22.54 |
| 434 | 15.32 | 484 | 18.63 | 534 | 12.11 | 584 | 24.85 |
| 435 | 15.53 | 485 | 17.00 | 535 | 13.36 | 585 | 23.08 |
| 436 | 15.63 | 486 | 17.00 | 536 | 11.00 | 586 | 24.00 |
| 437 | 18.36 | 487 | 18.32 | 537 | 9.94 | 587 | 24.80 |
| 438 | 18.06 | 488 | 21.45 | 538 | 8.31 | 588 | 26.00 |
| 439 | 18.59 | 489 | 21.03 | 539 | 8.84 | 589 | 26.00 |
| 440 | 15.00 | 490 | 20.87 | 540 | 7.00 | 590 | 24.26 |
| 441 | 13.75 | 491 | 20.00 | 541 | 7.00 | 591 | 24.06 |
| 442 | 10.28 | 492 | 21.33 | 542 | 7.32 | 592 | 26.00 |
| 443 | 6.80 | 493 | 23.60 | 543 | 8.95 | 593 | 26.00 |
| 444 | 6.89 | 494 | 21.72 | 544 | 10.63 | 594 | 25.50 |
| 445 | 7.05 | 495 | 23.75 | 545 | 9.43 | 595 | 25.66 |
| 446 | 8.20 | 496 | 23.85 | 546 | 9.94 | 596 | 26.00 |
| 447 | 9.00 | 497 | 22.23 | 547 | 11.10 | 597 | 28.92 |
| 448 | 7.96 | 498 | 23.78 | 548 | 12.00 | 598 | 30.00 |
| 449 | 7.00 | 499 | 25.55 | 549 | 12.42 | 599 | 29.43 |
| 450 | 9.50 | 500 | 24.59 | 550 | 13.00 | 600 | 26.22 |

DRIVING SCHEDULE FOR
CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 601 | 23.40 | 651 | 14.00 | 701 | 7.34 | 751 | 15.21 |
| 602 | 23.00 | 652 | 14.00 | 702 | 7.50 | 752 | 16.00 |
| 603 | 22.08 | 653 | 14.00 | 703 | 7.00 | 753 | 17.58 |
| 604 | 23.00 | 654 | 14.00 | 704 | 5.37 | 754 | 19.69 |
| 605 | 22.77 | 655 | 15.10 | 705 | 3.05 | 755 | 19.16 |
| 606 | 21.61 | 656 | 16.00 | 706 | 3.00 | 756 | 19.00 |
| 607 | 21.00 | 657 | 16.00 | 707 | 3.57 | 757 | 18.84 |
| 608 | 20.30 | 658 | 16.57 | 708 | 5.44 | 758 | 17.68 |
| 609 | 20.86 | 659 | 14.07 | 709 | 6.60 | 759 | 16.05 |
| 610 | 22.00 | 660 | 13.89 | 710 | 4.72 | 760 | 15.00 |
| 611 | 21.82 | 661 | 14.95 | 711 | 5.83 | 761 | 13.43 |
| 612 | 21.00 | 662 | 14.00 | 712 | 6.00 | 762 | 13.00 |
| 613 | 21.00 | 663 | 14.00 | 713 | 6.00 | 763 | 13.90 |
| 614 | 21.65 | 664 | 14.00 | 714 | 6.39 | 764 | 12.48 |
| 615 | 22.00 | 665 | 14.00 | 715 | 7.00 | 765 | 11.42 |
| 616 | 18.15 | 666 | 14.83 | 716 | 7.70 | 766 | 13.15 |
| 617 | 18.00 | 667 | 14.01 | 717 | 7.14 | 767 | 14.00 |
| 618 | 17.72 | 668 | 16.15 | 718 | 7.00 | 768 | 14.00 |
| 619 | 17.87 | 669 | 17.00 | 719 | 7.53 | 769 | 13.86 |
| 620 | 19.59 | 670 | 17.00 | 720 | 10.67 | 770 | 10.80 |
| 621 | 20.00 | 671 | 17.62 | 721 | 10.53 | 771 | 10.00 |
| 622 | 18.18 | 672 | 18.78 | 722 | 9.65 | 772 | 11.56 |
| 623 | 13.80 | 673 | 19.94 | 723 | 10.81 | 773 | 11.65 |
| 624 | 10.78 | 674 | 18.19 | 724 | 9.07 | 774 | 11.83 |
| 625 | 10.38 | 675 | 20.25 | 725 | 8.00 | 775 | 12.00 |
| 626 | 11.00 | 676 | 20.18 | 726 | 8.28 | 776 | 12.15 |
| 627 | 10.31 | 677 | 20.13 | 727 | 9.87 | 777 | 12.08 |
| 628 | 10.85 | 678 | 21.72 | 728 | 9.81 | 778 | 9.54 |
| 629 | 7.01 | 679 | 20.24 | 729 | 9.00 | 779 | 9.62 |
| 630 | 8.17 | 680 | 20.96 | 730 | 9.00 | 780 | 10.00 |
| 631 | 8.68 | 681 | 19.42 | 731 | 5.07 | 781 | 10.94 |
| 632 | 7.04 | 682 | 17.00 | 732 | 6.00 | 782 | 10.00 |
| 633 | 7.28 | 683 | 16.49 | 733 | 6.76 | 783 | 10.00 |
| 634 | 6.41 | 684 | 15.33 | 734 | 7.46 | 784 | 10.41 |
| 635 | 7.91 | 685 | 14.18 | 735 | 7.00 | 785 | 11.00 |
| 636 | 10.11 | 686 | 14.00 | 736 | 8.70 | 786 | 11.72 |
| 637 | 11.00 | 687 | 11.72 | 737 | 12.02 | 787 | 12.88 |
| 638 | 11.00 | 688 | 8.81 | 738 | 14.00 | 788 | 12.00 |
| 639 | 12.17 | 689 | 6.91 | 739 | 13.68 | 789 | 12.00 |
| 640 | 13.74 | 690 | 7.39 | 740 | 13.00 | 790 | 12.00 |
| 641 | 14.00 | 691 | 7.00 | 741 | 12.36 | 791 | 12.51 |
| 642 | 16.00 | 692 | 7.00 | 742 | 12.80 | 792 | 12.33 |
| 643 | 15.57 | 693 | 7.92 | 743 | 13.00 | 793 | 11.18 |
| 644 | 14.00 | 694 | 7.72 | 744 | 13.11 | 794 | 10.02 |
| 645 | 14.53 | 695 | 9.20 | 745 | 13.73 | 795 | 10.14 |
| 646 | 17.06 | 696 | 6.89 | 746 | 13.85 | 796 | 11.59 |
| 647 | 18.00 | 697 | 5.29 | 747 | 13.83 | 797 | 13.00 |
| 648 | 17.00 | 698 | 5.87 | 748 | 12.26 | 798 | 13.61 |
| 649 | 15.84 | 699 | 4.00 | 749 | 12.90 | 799 | 17.08 |
| 650 | 14.68 | 700 | 4.56 | 750 | 13.11 | 800 | 18.00 |

DRIVING SCHEDULE FOR
CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 801 | 20.08 | 851 | 31.09 | 901 | 7.35 | 951 | 0.0 |
| 802 | 21.00 | 852 | 32.11 | 902 | 6.02 | 952 | 0.0 |
| 803 | 21.00 | 853 | 33.00 | 903 | 6.72 | 953 | 0.0 |
| 804 | 21.00 | 854 | 32.15 | 904 | 4.70 | 954 | 0.0 |
| 805 | 21.71 | 855 | 30.42 | 905 | 4.45 | 955 | 0.0 |
| 806 | 22.00 | 856 | 30.74 | 906 | 5.61 | 956 | 0.0 |
| 807 | 22.03 | 857 | 32.80 | 907 | 4.46 | 957 | 0.64 |
| 808 | 22.63 | 858 | 32.94 | 908 | 3.07 | 958 | 1.80 |
| 809 | 20.31 | 859 | 31.79 | 909 | 3.92 | 959 | 3.91 |
| 810 | 19.00 | 860 | 31.00 | 910 | 2.76 | 960 | 3.78 |
| 811 | 18.34 | 861 | 32.06 | 911 | 1.20 | 961 | 1.73 |
| 812 | 20.45 | 862 | 33.69 | 912 | 0.0 | 962 | 1.85 |
| 813 | 21.00 | 863 | 32.31 | 913 | 0.0 | 963 | 2.42 |
| 814 | 22.26 | 864 | 31.00 | 914 | 0.0 | 964 | 4.22 |
| 815 | 24.86 | 865 | 31.16 | 915 | 0.0 | 965 | 4.10 |
| 816 | 26.56 | 866 | 31.68 | 916 | 0.0 | 966 | 4.11 |
| 817 | 27.20 | 867 | 29.11 | 917 | 0.0 | 967 | 6.00 |
| 818 | 28.76 | 868 | 26.37 | 918 | 0.0 | 968 | 6.74 |
| 819 | 31.75 | 869 | 26.79 | 919 | 0.0 | 969 | 8.00 |
| 820 | 30.93 | 870 | 27.00 | 920 | 0.0 | 970 | 8.69 |
| 821 | 29.77 | 871 | 26.80 | 921 | 0.0 | 971 | 9.84 |
| 822 | 29.00 | 872 | 24.22 | 922 | 0.0 | 972 | 9.00 |
| 823 | 29.00 | 873 | 22.00 | 923 | 0.0 | 973 | 7.16 |
| 824 | 29.70 | 874 | 20.28 | 924 | 0.0 | 974 | 8.32 |
| 825 | 30.00 | 875 | 19.00 | 925 | 0.0 | 975 | 8.53 |
| 826 | 31.02 | 876 | 17.22 | 926 | 0.0 | 976 | 6.11 |
| 827 | 31.82 | 877 | 18.00 | 927 | 0.0 | 977 | 3.43 |
| 828 | 30.67 | 878 | 18.20 | 928 | 0.0 | 978 | 2.06 |
| 829 | 28.53 | 879 | 19.00 | 929 | 0.0 | 979 | 0.0 |
| 830 | 27.00 | 880 | 19.52 | 930 | 0.0 | 980 | 0.0 |
| 831 | 27.81 | 881 | 20.60 | 931 | 0.0 | 981 | 0.0 |
| 832 | 28.96 | 882 | 20.17 | 932 | 0.0 | 982 | 0.0 |
| 833 | 30.12 | 883 | 16.04 | 933 | 0.0 | 983 | 0.0 |
| 834 | 31.00 | 884 | 16.00 | 934 | 0.0 | 984 | 0.0 |
| 835 | 31.00 | 885 | 15.69 | 935 | 0.0 | 985 | 0.0 |
| 836 | 32.19 | 886 | 15.00 | 936 | 0.0 | 986 | 0.0 |
| 837 | 33.00 | 887 | 15.00 | 937 | 0.0 | 987 | 0.0 |
| 838 | 33.91 | 888 | 15.00 | 938 | 0.0 | 988 | 0.0 |
| 839 | 34.93 | 889 | 15.94 | 939 | 0.0 | 989 | 0.0 |
| 840 | 34.44 | 890 | 16.91 | 940 | 0.0 | 990 | 0.0 |
| 841 | 36.00 | 891 | 16.00 | 941 | 0.0 | 991 | 0.0 |
| 842 | 36.00 | 892 | 16.00 | 942 | 0.0 | 992 | 0.0 |
| 843 | 36.00 | 893 | 16.57 | 943 | 0.0 | 993 | 0.0 |
| 844 | 35.15 | 894 | 15.55 | 944 | 0.0 | 994 | 0.0 |
| 845 | 34.99 | 895 | 12.36 | 945 | 0.0 | 995 | 0.0 |
| 846 | 34.00 | 896 | 10.96 | 946 | 0.0 | 996 | 0.0 |
| 847 | 34.00 | 897 | 10.00 | 947 | 0.0 | 997 | 0.0 |
| 848 | 34.48 | 898 | 10.00 | 948 | 0.0 | 998 | 0.0 |
| 849 | 33.72 | 899 | 9.49 | 949 | 0.0 | 999 | 0.0 |
| 850 | 33.00 | 900 | 9.00 | 950 | 0.0 | 1000 | 0.0 |

DRIVING SCHEDULE FOR
CYCLE 2143765149

NY BUSES FWY & NFWY COMPOSITE 1-SEC INTERVAL



| SECOND | MPH | SECOND | MPH | SECOND | MPH | SECOND | MPH |
|---|---|---|---|---|---|---|---|
| 1001 | 0.0 | 1009 | 0.0 | 1017 | 0.0 | 1025 | 0.0 |
| 1002 | 0.0 | 1010 | 0.0 | 1018 | 0.0 | 1026 | 0.0 |
| 1003 | 0.0 | 1011 | 0.0 | 1019 | 0.0 | 1027 | 0.0 |
| 1004 | 0.0 | 1012 | 0.0 | 1020 | 0.0 | 1028 | 0.0 |
| 1005 | 0.0 | 1013 | 0.0 | 1021 | 0.0 | 1029 | 0.0 |
| 1006 | 0.0 | 1014 | 0.0 | 1022 | 0.0 | | |
| 1007 | 0.0 | 1015 | 0.0 | 1023 | 0.0 | | |
| 1008 | 0.0 | 1016 | 0.0 | 1024 | 0.0 | | |

Appendix D

STATISTICS FOR TRUCK LA 45



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STATISTICAL ANALYSIS OF TRUCK LA 45  TT DIESEL

5 FILE(S) WERE PROCESSED

RECORD COUNT = 127528

OPERATING TIME = 30.61 HRS

TRUCK LA 45 TT DIESEL

TEMPERATURE DENSITY AND DISTRIBUTION FUNCTIONS

| TEMP | FREEWAY FREQ. | FREEWAY DENS. | FREEWAY DIST. | NON-FREEWAY FREQ. | NON-FREEWAY DENS. | NON-FREEWAY DIST. | COMBINED FREQ. | COMBINED DENS. | COMBINED DIST. |
|---|---|---|---|---|---|---|---|---|---|
| 40 | 0 | 0.0 | 0.0 | 372 | 0.40 | 0.40 | 372 | 0.29 | 0.29 |
| 45 | 0 | 0.0 | 0.0 | 196 | 0.21 | 0.61 | 196 | 0.15 | 0.45 |
| 50 | 0 | 0.0 | 0.0 | 315 | 0.34 | 0.95 | 315 | 0.25 | 0.70 |
| 55 | 0 | 0.0 | 0.0 | 226 | 0.24 | 1.19 | 226 | 0.18 | 0.87 |
| 60 | 0 | 0.0 | 0.0 | 279 | 0.30 | 1.49 | 279 | 0.22 | 1.09 |
| 65 | 0 | 0.0 | 0.0 | 204 | 0.22 | 1.71 | 204 | 0.16 | 1.25 |
| 70 | 0 | 0.0 | 0.0 | 162 | 0.17 | 1.88 | 162 | 0.13 | 1.38 |
| 75 | 0 | 0.0 | 0.0 | 146 | 0.16 | 2.04 | 146 | 0.11 | 1.50 |
| 80 | 0 | 0.0 | 0.0 | 142 | 0.15 | 2.19 | 142 | 0.11 | 1.61 |
| 85 | 0 | 0.0 | 0.0 | 127 | 0.14 | 2.33 | 127 | 0.10 | 1.71 |
| 90 | 0 | 0.0 | 0.0 | 138 | 0.15 | 2.48 | 138 | 0.11 | 1.82 |
| 95 | 0 | 0.0 | 0.0 | 106 | 0.11 | 2.59 | 106 | 0.08 | 1.90 |
| 100 | 0 | 0.0 | 0.0 | 82 | 0.09 | 2.68 | 82 | 0.06 | 1.96 |
| 105 | 0 | 0.0 | 0.0 | 74 | 0.08 | 2.76 | 74 | 0.06 | 2.02 |
| 110 | 0 | 0.0 | 0.0 | 65 | 0.07 | 2.83 | 65 | 0.05 | 2.07 |
| 115 | 0 | 0.0 | 0.0 | 72 | 0.08 | 2.91 | 72 | 0.06 | 2.13 |
| 120 | 0 | 0.0 | 0.0 | 59 | 0.06 | 2.97 | 59 | 0.05 | 2.18 |
| 125 | 0 | 0.0 | 0.0 | 73 | 0.08 | 3.05 | 73 | 0.06 | 2.23 |
| 130 | 0 | 0.0 | 0.0 | 83 | 0.09 | 3.14 | 83 | 0.07 | 2.30 |
| 135 | 0 | 0.0 | 0.0 | 102 | 0.11 | 3.25 | 102 | 0.08 | 2.38 |
| 140 | 0 | 0.0 | 0.0 | 105 | 0.11 | 3.36 | 105 | 0.08 | 2.46 |
| 145 | 0 | 0.0 | 0.0 | 158 | 0.17 | 3.53 | 158 | 0.12 | 2.59 |
| 150 | 14 | 0.04 | 0.04 | 73 | 0.08 | 3.61 | 87 | 0.07 | 2.65 |
| 155 | 516 | 1.52 | 1.56 | 108 | 0.12 | 3.72 | 624 | 0.49 | 3.15 |
| 160 | 200 | 0.59 | 2.15 | 272 | 0.29 | 4.01 | 472 | 0.37 | 3.52 |
| 165 | 1353 | 3.99 | 6.14 | 664 | 0.71 | 4.73 | 2017 | 1.59 | 5.11 |
| 170 | 2055 | 6.06 | 12.21 | 495 | 0.53 | 5.26 | 2550 | 2.01 | 7.11 |
| 175 | 4873 | 14.37 | 26.58 | 2461 | 2.64 | 7.90 | 7334 | 5.77 | 12.89 |
| 180 | 9246 | 27.27 | 53.85 | 10029 | 10.77 | 18.67 | 19275 | 15.17 | 28.06 |
| 185 | 8479 | 25.01 | 78.86 | 37632 | 40.40 | 59.07 | 46111 | 36.30 | 64.35 |
| 190 | 7166 | 21.14 | 100.00 | 35886 | 38.53 | 97.60 | 43052 | 33.89 | 98.24 |
| 195 | 0 | 0.0 | 100.00 | 2237 | 2.40 | 100.00 | 2237 | 1.76 | 100.00 |
| 200 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 205 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 210 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 215 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 220 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 225 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 230 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 235 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 240 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 245 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 250 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 255 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 260 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 265 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 270 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 275 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 280 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 285 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 290 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 295 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 300 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| | N = 33902 | | | N = 93143 | | | N = 127045 | | |
| | AVGE = 180.93 | | | AVGE = 182.26 | | | AVGE = 181.90 | | |
| | STD DEV = 7.58 | | | STD DEV = 21.31 | | | STD DEV = 18.67 | | |

TRUCK LA 45 TT DIESEL
FREEWAY

NORMALIZED INITIAL % RPM VS FINAL % RPM MATRIX
(N = 33536)

| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 | 0.769 | 0.033 | 0.012 | 0.009 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 0.0 | 0.0 | 0.036 | 0.009 | 0.018 | 0.0 | 0.003 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.0 | 0.0 | 0.018 | 0.018 | 0.033 | 0.012 | 0.024 | 0.012 | 0.009 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 | 0.006 | 0.018 | 0.027 | 0.033 | 0.021 | 0.024 | 0.066 | 0.072 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.0 | 0.0 | 0.024 | 0.045 | 0.057 | 0.060 | 0.060 | 0.081 | 0.051 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.060 | 0.128 | 0.116 | 0.081 | 0.042 | 0.018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.012 | 0.024 | 0.122 | 0.215 | 0.215 | 0.122 | 0.033 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.033 | 0.018 | 0.149 | 0.686 | 0.641 | 0.113 | 0.024 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.033 | 0.253 | 4.854 | 1.670 | 0.128 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.009 | 0.078 | 0.647 | 18.019 | 2.403 | 0.021 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.012 | 0.083 | 0.435 | 1.229 | 58.328 | 1.628 | 0.003 | 0.0 | 0.0 | 0.0 |
| 110 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.107 | 0.131 | 1.166 | 4.169 | 0.003 | 0.0 | 0.0 | 0.0 |
| 120 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.003 | 0.009 | 0.0 | 0.0 | 0.0 |
| 130 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 0.0 | 0.0 | 0.829 | 0.078 | 0.113 | 0.125 | 0.227 | 0.388 | 0.668 | 1.557 | 6.903 | 21.213 | 62.062 | 5.824 | 0.015 | 0.0 | 0.0 | 0.0 |

% ACCEL = 7.86 % CRUISE = 86.54 % DECEL = 4.83 % IDLE = 0.77

TRUCK LA 45 TT DIESEL
NON-FREEWAY

NORMALIZED INITIAL % RPM VS FINAL % RPM MATRIX
(N = 92194)

| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -10 | 0.0 | 0.0 | 0.015 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.015 | 48.174 | 0.425 | 0.234 | 0.093 | 0.035 | 0.011 | 0.001 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 0.0 | 0.001 | 0.346 | 0.564 | 0.252 | 0.114 | 0.069 | 0.026 | 0.004 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.0 | 0.0 | 0.158 | 0.251 | 0.574 | 0.278 | 0.111 | 0.076 | 0.042 | 0.010 | 0.001 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.001 | 0.021 | 0.091 | 0.290 | 0.579 | 0.294 | 0.137 | 0.145 | 0.159 | 0.014 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.002 | 0.014 | 0.073 | 0.278 | 0.658 | 0.357 | 0.223 | 0.210 | 0.108 | 0.008 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.001 | 0.001 | 0.0 | 0.018 | 0.087 | 0.346 | 0.773 | 0.432 | 0.238 | 0.133 | 0.028 | 0.008 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.052 | 0.098 | 0.406 | 1.107 | 0.661 | 0.326 | 0.111 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.097 | 0.097 | 0.504 | 2.157 | 1.439 | 0.347 | 0.059 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.018 | 0.051 | 0.103 | 0.744 | 5.099 | 2.837 | 0.358 | 0.011 | 0.0 | 0.0 | 0.0 | 0.001 |
| 90 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.001 | 0.0 | 0.016 | 0.082 | 0.321 | 1.217 | 7.890 | 2.529 | 0.064 | 0.001 | 0.0 | 0.0 | 0.001 |
| 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.001 | 0.035 | 0.177 | 0.876 | 1.023 | 9.311 | 0.667 | 0.005 | 0.001 | 0.0 | 0.002 |
| 110 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.010 | 0.113 | 0.127 | 0.232 | 0.880 | 0.004 | 0.001 | 0.002 | 0.003 |
| 120 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.005 | 0.005 | 0.003 | 0.002 | 0.005 | 0.002 |
| 130 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.004 | 0.002 | 0.0 | 0.003 |
| 140 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.004 | 0.001 | 0.001 |
| 150 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.003 | 0.002 | 0.001 | 0.009 | 0.015 |
| TOTALS | 0.0 | 0.018 | 48.721 | 1.348 | 1.442 | 1.485 | 1.726 | 1.950 | 2.680 | 4.689 | 9.330 | 12.375 | 12.516 | 1.637 | 0.024 | 0.012 | 0.017 | 0.029 |

% ACCEL = 13.76 % CRUISE = 29.61 % DECEL = 8.45 % IDLE = 48.17

TRUCK LA 45 TT DIESEL COMBINED

NORMALIZED INITIAL % RPM VS FINAL % RPM MATRIX
(N = 125730)

| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -10 | 0.0 | 0.0 | 0.011 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.011 | 35.530 | 0.321 | 0.175 | 0.071 | 0.027 | 0.008 | 0.001 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 0.0 | 0.001 | 0.263 | 0.416 | 0.189 | 0.084 | 0.052 | 0.021 | 0.003 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.0 | 0.0 | 0.121 | 0.188 | 0.429 | 0.207 | 0.087 | 0.059 | 0.033 | 0.008 | 0.001 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.001 | 0.017 | 0.072 | 0.220 | 0.433 | 0.221 | 0.107 | 0.124 | 0.136 | 0.011 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.002 | 0.010 | 0.060 | 0.216 | 0.498 | 0.278 | 0.180 | 0.176 | 0.093 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.001 | 0.001 | 0.0 | 0.014 | 0.068 | 0.270 | 0.601 | 0.348 | 0.196 | 0.109 | 0.025 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.041 | 0.078 | 0.330 | 0.869 | 0.542 | 0.272 | 0.090 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.080 | 0.076 | 0.410 | 1.765 | 1.226 | 0.285 | 0.049 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.014 | 0.041 | 0.084 | 0.613 | 5.034 | 2.526 | 0.297 | 0.009 | 0.0 | 0.0 | 0.0 | 0.001 |
| 90 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.001 | 0.0 | 0.012 | 0.063 | 0.256 | 1.065 | 10.592 | 2.496 | 0.052 | 0.001 | 0.0 | 0.0 | 0.001 |
| 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.001 | 0.029 | 0.152 | 0.759 | 1.078 | 22.385 | 0.923 | 0.005 | 0.001 | 0.0 | 0.002 |
| 110 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.009 | 0.111 | 0.128 | 0.481 | 1.757 | 0.004 | 0.001 | 0.002 | 0.002 |
| 120 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.005 | 0.005 | 0.005 | 0.002 | 0.004 | 0.002 |
| 130 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.003 | 0.002 | 0.0 | 0.002 |
| 140 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.003 | 0.001 | 0.001 |
| 150 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.002 | 0.002 | 0.001 | 0.006 | 0.011 |
| TOTALS | 0.0 | 0.014 | 35.947 | 1.009 | 1.087 | 1.122 | 1.326 | 1.533 | 2.143 | 3.853 | 8.683 | 14.732 | 25.731 | 2.754 | 0.021 | 0.009 | 0.013 | 0.021 |

% ACCEL = 12.18 % CRUISE = 44.80 % DECEL = 7.49 % IDLE = 35.53

TRUCK LA 45 TT DIESEL NORMALIZED INITIAL % POWER VS FINAL % POWER MATRIX
FREEWAY (N = 33536)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MOTOR | 17.879 | 0.784 | 0.754 | 0.423 | 0.283 | 0.236 | 0.152 | 0.149 | 0.185 | 0.161 | 0.146 | 0.048 |
| 0 | 0.793 | 1.005 | 0.513 | 0.253 | 0.078 | 0.078 | 0.024 | 0.009 | 0.018 | 0.012 | 0.009 | 0.012 |
| 10 | 0.889 | 0.552 | 1.282 | 0.859 | 0.265 | 0.119 | 0.042 | 0.027 | 0.033 | 0.015 | 0.021 | 0.006 |
| 20 | 0.573 | 0.245 | 0.981 | 1.545 | 1.056 | 0.391 | 0.158 | 0.066 | 0.015 | 0.021 | 0.024 | 0.006 |
| 30 | 0.247 | 0.104 | 0.352 | 1.252 | 1.908 | 1.360 | 0.385 | 0.128 | 0.048 | 0.030 | 0.024 | 0.003 |
| 40 | 0.242 | 0.060 | 0.170 | 0.492 | 1.640 | 3.304 | 1.709 | 0.477 | 0.122 | 0.063 | 0.015 | 0.015 |
| 50 | 0.194 | 0.015 | 0.018 | 0.119 | 0.486 | 2.057 | 4.333 | 2.221 | 0.432 | 0.092 | 0.015 | 0.012 |
| 60 | 0.191 | 0.024 | 0.024 | 0.051 | 0.104 | 0.605 | 2.666 | 5.642 | 2.144 | 0.298 | 0.083 | 0.009 |
| 70 | 0.116 | 0.012 | 0.018 | 0.030 | 0.030 | 0.152 | 0.471 | 2.776 | 6.900 | 2.129 | 0.221 | 0.018 |
| 80 | 0.039 | 0.003 | 0.0 | 0.0 | 0.018 | 0.039 | 0.051 | 0.295 | 2.758 | 5.346 | 1.518 | 0.042 |
| 90 | 0.030 | 0.003 | 0.0 | 0.006 | 0.006 | 0.006 | 0.012 | 0.024 | 0.212 | 1.935 | 4.345 | 0.319 |
| 100 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.018 | 0.468 | 0.456 |
| TOTALS | 21.195 | 2.806 | 4.112 | 5.030 | 5.874 | 8.346 | 10.001 | 11.814 | 12.867 | 10.120 | 6.888 | 0.945 |

% ACCEL = 21.38 % CRUISE = 36.07 % DECEL = 24.67 % MOTOR = 17.88

TRUCK LA 45 TT DIESEL
NON-FREEWAY

NORMALIZED INITIAL % POWER VS FINAL % POWER MATRIX
(N = 92194)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MOTOR | 21.991 | 1.354 | 0.853 | 0.484 | 0.393 | 0.347 | 0.317 | 0.318 | 0.335 | 0.244 | 0.156 | 0.041 |
| 0 | 1.183 | 45.543 | 0.553 | 0.238 | 0.229 | 0.161 | 0.105 | 0.080 | 0.068 | 0.040 | 0.022 | 0.010 |
| 10 | 1.020 | 0.635 | 1.360 | 0.406 | 0.143 | 0.097 | 0.062 | 0.056 | 0.059 | 0.042 | 0.035 | 0.009 |
| 20 | 0.585 | 0.257 | 0.588 | 0.766 | 0.267 | 0.134 | 0.076 | 0.060 | 0.059 | 0.036 | 0.041 | 0.011 |
| 30 | 0.459 | 0.108 | 0.282 | 0.472 | 0.589 | 0.272 | 0.123 | 0.081 | 0.062 | 0.041 | 0.024 | 0.010 |
| 40 | 0.534 | 0.053 | 0.123 | 0.248 | 0.479 | 0.535 | 0.298 | 0.132 | 0.085 | 0.071 | 0.033 | 0.005 |
| 50 | 0.487 | 0.035 | 0.060 | 0.112 | 0.249 | 0.613 | 0.678 | 0.305 | 0.133 | 0.047 | 0.022 | 0.010 |
| 60 | 0.401 | 0.017 | 0.052 | 0.060 | 0.084 | 0.302 | 0.715 | 0.843 | 0.331 | 0.088 | 0.036 | 0.007 |
| 70 | 0.298 | 0.017 | 0.031 | 0.039 | 0.049 | 0.108 | 0.299 | 0.864 | 1.107 | 0.260 | 0.069 | 0.009 |
| 80 | 0.090 | 0.003 | 0.010 | 0.020 | 0.021 | 0.017 | 0.059 | 0.180 | 0.809 | 0.941 | 0.194 | 0.010 |
| 90 | 0.041 | 0.002 | 0.003 | 0.009 | 0.005 | 0.004 | 0.007 | 0.013 | 0.100 | 0.545 | 0.761 | 0.055 |
| 100 | 0.003 | 0.001 | 0.0 | 0.001 | 0.001 | 0.004 | 0.001 | 0.004 | 0.002 | 0.008 | 0.151 | 0.104 |
| TOTALS | 27.092 | 48.026 | 3.915 | 2.853 | 2.509 | 2.595 | 2.739 | 2.937 | 3.150 | 2.362 | 1.543 | 0.280 |

% ACCEL = 10.75 % CRUISE = 53.23 % DECEL = 14.03 % MOTOR = 21.99

TRUCK LA 45 TT DIESEL
COMBINED

NORMALIZED INITIAL % POWER VS FINAL % POWER MATRIX
(N = 125730)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MOTOR | 20.894 | 1.202 | 0.826 | 0.468 | 0.363 | 0.317 | 0.273 | 0.273 | 0.295 | 0.222 | 0.154 | 0.043 |
| 0 | 1.079 | 33.663 | 0.542 | 0.242 | 0.188 | 0.138 | 0.084 | 0.061 | 0.055 | 0.033 | 0.018 | 0.010 |
| 10 | 0.985 | 0.612 | 1.339 | 0.527 | 0.176 | 0.103 | 0.056 | 0.049 | 0.052 | 0.035 | 0.031 | 0.008 |
| 20 | 0.581 | 0.254 | 0.693 | 0.974 | 0.477 | 0.203 | 0.098 | 0.061 | 0.047 | 0.032 | 0.037 | 0.010 |
| 30 | 0.402 | 0.107 | 0.301 | 0.680 | 0.941 | 0.562 | 0.192 | 0.094 | 0.058 | 0.038 | 0.024 | 0.008 |
| 40 | 0.456 | 0.055 | 0.135 | 0.313 | 0.789 | 1.273 | 0.674 | 0.224 | 0.095 | 0.068 | 0.028 | 0.008 |
| 50 | 0.409 | 0.029 | 0.049 | 0.114 | 0.313 | 0.998 | 1.653 | 0.816 | 0.213 | 0.059 | 0.020 | 0.010 |
| 60 | 0.345 | 0.019 | 0.045 | 0.057 | 0.089 | 0.383 | 1.235 | 2.123 | 0.814 | 0.144 | 0.049 | 0.007 |
| 70 | 0.250 | 0.016 | 0.028 | 0.037 | 0.044 | 0.120 | 0.345 | 1.374 | 2.653 | 0.759 | 0.110 | 0.011 |
| 80 | 0.076 | 0.003 | 0.007 | 0.014 | 0.020 | 0.023 | 0.056 | 0.211 | 1.329 | 2.116 | 0.547 | 0.018 |
| 90 | 0.038 | 0.002 | 0.002 | 0.008 | 0.006 | 0.005 | 0.008 | 0.016 | 0.130 | 0.915 | 1.717 | 0.126 |
| 100 | 0.003 | 0.001 | 0.0 | 0.001 | 0.001 | 0.003 | 0.001 | 0.003 | 0.002 | 0.010 | 0.235 | 0.198 |
| TOTALS | 25.519 | 35.964 | 3.967 | 3.434 | 3.407 | 4.129 | 4.676 | 5.305 | 5.742 | 4.432 | 2.969 | 0.457 |

% ACCEL = 13.58 % CRUISE = 48.65 % DECEL = 16.87 % MOTOR = 20.89

TRUCK LA 45 TT DIESEL

POWER DENSITY AND DISTRIBUTION FUNCTIONS

| | FREEWAY | | | NON-FREEWAY | | | COMBINED | | |
|---|---|---|---|---|---|---|---|---|---|
| % PWR | FREQ. | DENS. | DIST. | FREQ. | DENS. | DIST. | FREQ. | DENS. | DIST. |
| MOTOR | 7110 | 21.20 | 21.20 | 24737 | 26.83 | 26.83 | 31847 | 25.33 | 25.33 |
| 0 | 940 | 2.80 | 24.00 | 44467 | 48.23 | 75.06 | 45407 | 36.11 | 61.44 |
| 10 | 1378 | 4.11 | 28.11 | 3616 | 3.92 | 78.99 | 4994 | 3.97 | 65.42 |
| 20 | 1703 | 5.08 | 33.19 | 2654 | 2.88 | 81.86 | 4357 | 3.47 | 68.88 |
| 30 | 1959 | 5.84 | 39.03 | 2326 | 2.52 | 84.39 | 4285 | 3.41 | 72.29 |
| 40 | 2786 | 8.31 | 47.34 | 2393 | 2.60 | 86.98 | 5179 | 4.12 | 76.41 |
| 50 | 3352 | 10.00 | 57.34 | 2535 | 2.75 | 89.73 | 5887 | 4.68 | 81.09 |
| 60 | 3971 | 11.84 | 69.18 | 2705 | 2.93 | 92.67 | 6676 | 5.31 | 86.40 |
| 70 | 4317 | 12.87 | 82.05 | 2907 | 3.15 | 95.82 | 7224 | 5.75 | 92.15 |
| 80 | 3390 | 10.11 | 92.16 | 2170 | 2.35 | 98.17 | 5560 | 4.42 | 96.57 |
| 90 | 2313 | 6.90 | 99.05 | 1425 | 1.55 | 99.72 | 3738 | 2.97 | 99.54 |
| 100 | 317 | 0.95 | 100.00 | 259 | 0.28 | 100.00 | 576 | 0.46 | 100.00 |
| * N | = 26426 | | | * N = 67457 | | | * N = 93883 | | |
| MEAN | = 54.38 | | | MEAN = 15.94 | | | MEAN = 26.76 | | |
| MEDIAN | = 57.76 | | | MEDIAN = 3.79 | | | MEDIAN = 8.07 | | |
| STD DEV | = 24.84 | | | STD DEV = 26.83 | | | STD DEV = 31.46 | | |
| ** TOTAL N | = 33536 | | | ** TOTAL N = 92194 | | | ** TOTAL N = 125730 | | |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** FREQUENCY USED TO COMPUTE DENSITY AND DISTRIBUTION FUNCTIONS

TRUCK LA 45 TT DIESEL
FREEWAY

INITIAL SPEED VS DELTA SPEED MATRIX - CHANNEL 5
(N = 33536)

| | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.027 | 0.426 | 0.033 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.054 | 0.203 | 0.045 | 0.012 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.063 | 0.095 | 0.075 | 0.018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.024 | 0.066 | 0.209 | 0.116 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.009 | 0.024 | 0.051 | 0.355 | 0.161 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.030 | 0.107 | 0.558 | 0.236 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.006 | 0.030 | 0.188 | 0.784 | 0.328 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.033 | 0.110 | 0.808 | 0.256 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.012 | 0.030 | 0.101 | 0.927 | 0.292 | 0.027 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.027 | 0.173 | 0.871 | 0.397 | 0.018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.018 | 0.051 | 0.134 | 0.432 | 0.250 | 0.036 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.003 | 0.009 | 0.030 | 0.072 | 5.218 | 0.349 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.027 | 0.110 | 0.763 | 0.322 | 0.018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.012 | 0.021 | 0.307 | 2.678 | 0.617 | 0.021 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.024 | 0.790 | 3.993 | 0.877 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.009 | 0.021 | 0.194 | 0.796 | 0.349 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.021 | 0.039 | 0.146 | 2.415 | 0.358 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.012 | 0.042 | 0.495 | 2.982 | 0.468 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.024 | 0.164 | 0.883 | 0.379 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.021 | 0.081 | 1.193 | 0.259 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.015 | 0.095 | 2.335 | 0.280 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.012 | 0.516 | 3.763 | 0.492 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.009 | 0.247 | 1.178 | 0.394 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.143 | 2.901 | 0.280 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.200 | 6.286 | 0.406 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.861 | 14.704 | 2.055 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 1.923 | 15.348 | 1.816 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.078 | 1.088 | 0.042 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.057 | 1.401 | 0.081 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.206 | 1.449 | 0.188 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.072 | 0.811 | 0.092 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.054 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.015 | 0.158 | 0.564 | 8.829 | 77.907 | 12.291 | 0.227 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 |

% ACCEL = 12.52 % CRUISE = 77.48 % DECEL = 9.57 % IDLE = 0.43

NUMBER OF TIMES DELTA SPEED < -9.5MPH/SEC = 0

NUMBER OF TIMES DELTA SPEED > 7.5MPH/SEC = 0

TRUCK LA 45 TT DIESEL
NON-FREEWAY

INITIAL SPEED VS DELTA SPEED MATRIX - CHANNEL 5
(N = 92194)

| | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.154 | 49.851 | 0.385 | 0.089 | 0.106 | 0.009 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.010 | 0.483 | 1.908 | 0.525 | 0.171 | 0.012 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.011 | 0.097 | 0.057 | 0.489 | 2.803 | 0.608 | 0.167 | 0.004 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0.0 | 0.0 | 0.001 | 0.002 | 0.0 | 0.0 | 0.012 | 0.092 | 0.413 | 3.181 | 0.765 | 0.051 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.004 | 0.016 | 0.111 | 0.267 | 2.378 | 0.681 | 0.099 | 0.002 | 0.0 | 0.0 | 0.001 | 0.0 |
| 10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.017 | 0.105 | 0.332 | 2.170 | 0.671 | 0.111 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 0.001 | 0.0 | 0.0 | 0.002 | 0.0 | 0.001 | 0.033 | 0.116 | 0.341 | 1.316 | 0.763 | 0.059 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 0.0 | 0.0 | 0.001 | 0.001 | 0.001 | 0.003 | 0.033 | 0.142 | 0.230 | 1.002 | 0.760 | 0.010 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 |
| 16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.007 | 0.028 | 0.138 | 0.222 | 0.849 | 0.739 | 0.093 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.004 | 0.026 | 0.121 | 0.324 | 1.335 | 0.825 | 0.050 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.004 | 0.022 | 0.123 | 0.267 | 0.835 | 0.618 | 0.056 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 0.001 | 0.0 | 0.0 | 0.0 | 0.001 | 0.010 | 0.040 | 0.107 | 0.212 | 1.705 | 0.566 | 0.011 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.028 | 0.092 | 0.151 | 1.026 | 0.540 | 0.026 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.036 | 0.066 | 0.191 | 1.068 | 0.593 | 0.024 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.020 | 0.062 | 0.256 | 1.327 | 0.545 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.013 | 0.050 | 0.145 | 1.093 | 0.367 | 0.003 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.011 | 0.023 | 0.154 | 1.972 | 0.261 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.005 | 0.022 | 0.264 | 2.686 | 0.297 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.014 | 0.117 | 0.456 | 0.133 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.008 | 0.051 | 0.458 | 0.069 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.035 | 0.515 | 0.046 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.052 | 0.311 | 0.037 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.002 | 0.024 | 0.012 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.005 | 0.042 | 0.008 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.051 | 0.010 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.035 | 0.353 | 0.043 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.018 | 0.061 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 0.003 | 0.0 | 0.002 | 0.007 | 0.004 | 0.050 | 0.443 | 1.462 | 5.210 | 80.776 | 10.872 | 1.033 | 0.128 | 0.009 | 0.0 | 0.002 | 0.0 |

% ACCEL = 12.04 % CRUISE = 30.93 % DECEL = 7.18 % IDLE = 49.85

NUMBER OF TIMES DELTA SPEED < -9.5MPH/SEC = 1

NUMBER OF TIMES DELTA SPEED > 7.5MPH/SEC = 0

TRUCK LA 45 TT DIESEL
COMBINED

INITIAL SPEED VS DELTA SPEED MATRIX - CHANNEL 5
(N = 125730)

| | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.120 | 36.668 | 0.291 | 0.067 | 0.078 | 0.006 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.008 | 0.368 | 1.453 | 0.397 | 0.129 | 0.010 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.008 | 0.071 | 0.046 | 0.375 | 2.081 | 0.466 | 0.127 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0.0 | 0.0 | 0.001 | 0.002 | 0.0 | 0.0 | 0.010 | 0.074 | 0.321 | 2.388 | 0.592 | 0.038 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.003 | 0.014 | 0.087 | 0.209 | 1.838 | 0.542 | 0.074 | 0.002 | 0.0 | 0.0 | 0.001 | 0.0 |
| 10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.013 | 0.085 | 0.272 | 1.740 | 0.555 | 0.082 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 0.001 | 0.0 | 0.0 | 0.002 | 0.0 | 0.002 | 0.025 | 0.093 | 0.300 | 1.174 | 0.647 | 0.045 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 0.0 | 0.0 | 0.001 | 0.001 | 0.001 | 0.002 | 0.025 | 0.113 | 0.198 | 0.950 | 0.626 | 0.007 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 |
| 16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.006 | 0.024 | 0.109 | 0.190 | 0.870 | 0.620 | 0.076 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.021 | 0.096 | 0.284 | 1.211 | 0.711 | 0.041 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.021 | 0.103 | 0.231 | 0.728 | 0.520 | 0.051 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 0.001 | 0.0 | 0.0 | 0.0 | 0.002 | 0.008 | 0.032 | 0.087 | 0.174 | 2.642 | 0.508 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.021 | 0.075 | 0.140 | 0.956 | 0.482 | 0.024 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.029 | 0.054 | 0.222 | 1.498 | 0.600 | 0.023 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.018 | 0.052 | 0.398 | 2.038 | 0.633 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.012 | 0.042 | 0.158 | 1.014 | 0.362 | 0.004 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.014 | 0.027 | 0.152 | 2.090 | 0.287 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.007 | 0.027 | 0.325 | 2.765 | 0.343 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.017 | 0.130 | 0.569 | 0.199 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.011 | 0.059 | 0.654 | 0.120 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.005 | 0.051 | 1.001 | 0.108 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.004 | 0.176 | 1.232 | 0.158 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.068 | 0.332 | 0.114 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.004 | 0.042 | 0.805 | 0.080 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.053 | 1.714 | 0.115 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.522 | 4.180 | 0.580 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.527 | 4.138 | 0.487 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.021 | 0.290 | 0.011 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.374 | 0.021 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.055 | 0.387 | 0.050 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.019 | 0.216 | 0.025 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.014 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 0.002 | 0.0 | 0.002 | 0.005 | 0.004 | 0.041 | 0.367 | 1.222 | 6.175 | 80.011 | 11.250 | 0.818 | 0.095 | 0.006 | 0.0 | 0.002 | 0.0 |

% ACCEL = 12.17 % CRUISE = 43.34 % DECEL = 7.82 % IDLE = 36.67

NUMBER OF TIMES DELTA SPEED < -9.5MPH/SEC = 1

NUMBER OF TIMES DELTA SPEED > 7.5MPH/SEC = 0

'TRUCK LA 45 TT DIESEL

SPEED DENSITY AND DISTRIBUTION FUNCTIONS - CHANNEL 5

| SPEED | FREEWAY FREQ. | FREEWAY DENS. | FREEWAY DIST. | NON-FREEWAY FREQ. | NON-FREEWAY DENS. | NON-FREEWAY DIST. | COMBINED FREQ. | COMBINED DENS. | COMBINED DIST. |
|---|---|---|---|---|---|---|---|---|---|
| ZERO | 113 | 0.34 | | 45035 | 48.85 | | 45148 | 35.91 | |
| 0 | 165 | 0.49 | 0.49 | 46645 | 50.59 | 50.59 | 46810 | 37.23 | 37.23 |
| 2 | 108 | 0.32 | 0.81 | 2866 | 3.11 | 53.70 | 2974 | 2.37 | 39.60 |
| 4 | 89 | 0.27 | 1.08 | 3906 | 4.24 | 57.94 | 3995 | 3.18 | 42.77 |
| 6 | 142 | 0.42 | 1.50 | 4165 | 4.52 | 62.46 | 4307 | 3.43 | 46.20 |
| 8 | 203 | 0.61 | 2.11 | 3282 | 3.56 | 66.02 | 3485 | 2.77 | 48.97 |
| 10 | 313 | 0.93 | 3.04 | 3143 | 3.41 | 69.43 | 3456 | 2.75 | 51.72 |
| 12 | 452 | 1.35 | 4.39 | 2425 | 2.63 | 72.06 | 2877 | 2.29 | 54.01 |
| 14 | 407 | 1.21 | 5.60 | 2014 | 2.18 | 74.24 | 2421 | 1.93 | 55.93 |
| 16 | 467 | 1.39 | 7.00 | 1916 | 2.08 | 76.32 | 2383 | 1.90 | 57.83 |
| 18 | 500 | 1.49 | 8.49 | 2478 | 2.69 | 79.01 | 2978 | 2.37 | 60.20 |
| 20 | 309 | 0.92 | 9.41 | 1776 | 1.93 | 80.93 | 2085 | 1.66 | 61.86 |
| 22 | 1907 | 5.69 | 15.09 | 2446 | 2.65 | 83.59 | 4353 | 3.46 | 65.32 |
| 24 | 417 | 1.24 | 16.34 | 1719 | 1.86 | 85.45 | 2136 | 1.70 | 67.02 |
| 26 | 1228 | 3.66 | 20.00 | 1825 | 1.98 | 87.43 | 3053 | 2.43 | 69.44 |
| 28 | 1914 | 5.71 | 25.71 | 2045 | 2.22 | 89.65 | 3959 | 3.15 | 72.59 |
| 30 | 461 | 1.37 | 27.08 | 1543 | 1.67 | 91.32 | 2004 | 1.59 | 74.19 |
| 32 | 1000 | 2.98 | 30.06 | 2233 | 2.42 | 93.74 | 3233 | 2.57 | 76.76 |
| 34 | 1343 | 4.00 | 34.07 | 3020 | 3.28 | 97.02 | 4363 | 3.47 | 80.23 |
| 36 | 489 | 1.46 | 35.53 | 668 | 0.72 | 97.74 | 1157 | 0.92 | 81.15 |
| 38 | 523 | 1.56 | 37.09 | 542 | 0.59 | 98.33 | 1065 | 0.85 | 82.00 |
| 40 | 917 | 2.73 | 39.82 | 551 | 0.60 | 98.93 | 1468 | 1.17 | 83.16 |
| 42 | 1605 | 4.79 | 44.61 | 370 | 0.40 | 99.33 | 1975 | 1.57 | 84.73 |
| 44 | 615 | 1.83 | 46.44 | 36 | 0.04 | 99.37 | 651 | 0.52 | 85.25 |
| 46 | 1120 | 3.34 | 49.78 | 51 | 0.06 | 99.43 | 1171 | 0.93 | 86.18 |
| 48 | 2311 | 6.89 | 56.67 | 56 | 0.06 | 99.49 | 2367 | 1.88 | 88.07 |
| 50 | 6245 | 18.62 | 75.29 | 397 | 0.43 | 99.92 | 6642 | 5.28 | 93.35 |
| 52 | 6402 | 19.09 | 94.38 | 76 | 0.08 | 100.00 | 6478 | 5.15 | 98.50 |
| 54 | 405 | 1.21 | 95.59 | 0 | 0.0 | 100.00 | 405 | 0.32 | 98.82 |
| 56 | 516 | 1.54 | 97.13 | 0 | 0.0 | 100.00 | 516 | 0.41 | 99.23 |
| 58 | 618 | 1.84 | 98.97 | 0 | 0.0 | 100.00 | 618 | 0.49 | 99.73 |
| 60 | 327 | 0.98 | 99.95 | 0 | 0.0 | 100.00 | 327 | 0.26 | 99.99 |
| 62 | 18 | 0.05 | 100.00 | 0 | 0.0 | 100.00 | 18 | 0.01 | 100.00 |
| 64 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 66 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 68 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| 70 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 | 0 | 0.0 | 100.00 |
| | N = 33536 | | | N = 92194 | | | N = 125730 | | |
| | MEAN = 40.33 | | | MEAN = 8.73 | | | MEAN = 17.16 | | |
| | MEDIAN = 47.06 | | | MEDIAN = 0.99 | | | MEDIAN = 9.75 | | |
| | STD DEV = 13.55 | | | STD DEV = 12.03 | | | STD DEV = 18.72 | | |

TRUCK LA 45 TT DIESEL
FREEWAY

NORMALIZED % RPM VS % POWER MATRIX
(N = 33902)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -18 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0 | 0.027 | 0.637 | 0.029 | 0.012 | 0.009 | 0.024 | 0.0 | 0.009 | 0.006 | 0.003 | 0.0 | 0.0 |
| 2 | 0.018 | 0.024 | 0.003 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.009 | 0.0 | 0.003 | 0.003 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0.012 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.003 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 |
| 10 | 0.012 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 |
| 12 | 0.009 | 0.0 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16 | 0.009 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 0.015 | 0.0 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.029 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 0.021 | 0.0 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24 | 0.009 | 0.006 | 0.003 | 0.006 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | 0.047 | 0.0 | 0.006 | 0.006 | 0.006 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 |
| 28 | 0.024 | 0.0 | 0.0 | 0.006 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.038 | 0.0 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 |
| 32 | 0.035 | 0.0 | 0.009 | 0.0 | 0.003 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34 | 0.024 | 0.003 | 0.003 | 0.015 | 0.006 | 0.0 | 0.0 | 0.0 | 0.003 | 0.003 | 0.0 | 0.0 |
| 36 | 0.059 | 0.003 | 0.003 | 0.003 | 0.003 | 0.0 | 0.003 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 |
| 38 | 0.041 | 0.003 | 0.003 | 0.003 | 0.0 | 0.006 | 0.006 | 0.006 | 0.006 | 0.003 | 0.0 | 0.0 |
| 40 | 0.029 | 0.006 | 0.006 | 0.003 | 0.003 | 0.003 | 0.0 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 |
| 42 | 0.053 | 0.0 | 0.003 | 0.003 | 0.003 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 0.059 | 0.003 | 0.003 | 0.006 | 0.003 | 0.003 | 0.0 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 0.038 | 0.006 | 0.006 | 0.009 | 0.009 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 0.059 | 0.0 | 0.003 | 0.006 | 0.0 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.065 | 0.0 | 0.003 | 0.021 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.062 | 0.003 | 0.003 | 0.003 | 0.0 | 0.003 | 0.003 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 0.103 | 0.003 | 0.018 | 0.006 | 0.003 | 0.0 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.091 | 0.0 | 0.003 | 0.003 | 0.012 | 0.003 | 0.003 | 0.0 | 0.006 | 0.0 | 0.0 | 0.0 |
| 58 | 0.097 | 0.0 | 0.009 | 0.006 | 0.003 | 0.003 | 0.0 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 |
| 60 | 0.127 | 0.006 | 0.009 | 0.003 | 0.009 | 0.006 | 0.0 | 0.0 | 0.0 | 0.006 | 0.003 | 0.0 |
| 62 | 0.127 | 0.006 | 0.006 | 0.003 | 0.009 | 0.012 | 0.015 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.121 | 0.006 | 0.006 | 0.006 | 0.0 | 0.009 | 0.006 | 0.006 | 0.009 | 0.0 | 0.0 | 0.0 |
| 66 | 0.215 | 0.0 | 0.003 | 0.009 | 0.012 | 0.012 | 0.006 | 0.0 | 0.012 | 0.003 | 0.003 | 0.0 |
| 68 | 0.165 | 0.006 | 0.006 | 0.012 | 0.006 | 0.015 | 0.009 | 0.003 | 0.012 | 0.006 | 0.0 | 0.0 |
| 70 | 0.198 | 0.003 | 0.009 | 0.006 | 0.012 | 0.012 | 0.003 | 0.012 | 0.006 | 0.006 | 0.0 | 0.0 |
| 72 | 0.265 | 0.003 | 0.012 | 0.015 | 0.018 | 0.012 | 0.009 | 0.006 | 0.029 | 0.012 | 0.009 | 0.0 |
| 74 | 0.286 | 0.021 | 0.009 | 0.021 | 0.015 | 0.029 | 0.015 | 0.012 | 0.029 | 0.018 | 0.029 | 0.0 |
| 76 | 0.322 | 0.009 | 0.047 | 0.024 | 0.027 | 0.032 | 0.029 | 0.053 | 0.038 | 0.047 | 0.032 | 0.0 |
| 78 | 0.460 | 0.024 | 0.018 | 0.024 | 0.029 | 0.044 | 0.029 | 0.059 | 0.050 | 0.071 | 0.086 | 0.015 |
| 80 | 0.572 | 0.041 | 0.038 | 0.062 | 0.071 | 0.080 | 0.086 | 0.130 | 0.130 | 0.186 | 0.209 | 0.097 |
| 82 | 0.481 | 0.009 | 0.027 | 0.041 | 0.032 | 0.068 | 0.077 | 0.121 | 0.177 | 0.186 | 0.277 | 0.115 |
| 84 | 0.593 | 0.024 | 0.047 | 0.068 | 0.056 | 0.083 | 0.106 | 0.206 | 0.215 | 0.292 | 0.327 | 0.071 |
| 86 | 0.605 | 0.038 | 0.344 | 0.088 | 0.083 | 0.159 | 0.189 | 0.251 | 0.327 | 0.319 | 0.357 | 0.068 |

TRUCK LA 45 TT DIESEL
FREEWAY

NORMALIZED % RPM VS % POWER MATRIX
(N = 33902)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88 | 0.637 | 0.050 | 0.094 | 0.088 | 0.136 | 0.233 | 0.218 | 0.304 | 0.578 | 0.522 | 0.407 | 0.080 |
| 90 | 0.711 | 0.074 | 0.094 | 0.112 | 0.118 | 0.204 | 0.236 | 0.336 | 0.569 | 0.563 | 0.386 | 0.059 |
| 92 | 0.699 | 0.035 | 0.165 | 0.142 | 0.221 | 0.268 | 0.339 | 0.472 | 0.667 | 0.705 | 0.484 | 0.065 |
| 94 | 1.189 | 0.130 | 0.271 | 0.319 | 0.301 | 0.460 | 0.746 | 0.773 | 1.239 | 1.192 | 0.861 | 0.074 |
| 96 | 1.186 | 0.124 | 0.233 | 0.322 | 0.451 | 0.504 | 0.782 | 1.029 | 1.103 | 1.029 | 0.861 | 0.083 |
| 98 | 1.746 | 0.212 | 0.422 | 0.463 | 0.625 | 0.867 | 1.245 | 1.737 | 1.693 | 1.127 | 0.767 | 0.124 |
| 100 | 2.413 | 0.322 | 0.652 | 0.841 | 0.852 | 1.316 | 1.758 | 2.059 | 2.153 | 1.584 | 0.720 | 0.035 |
| 102 | 3.153 | 0.425 | 0.767 | 1.068 | 1.236 | 1.726 | 1.849 | 2.106 | 1.988 | 1.254 | 0.661 | 0.038 |
| 104 | 2.407 | 0.324 | 0.605 | 0.793 | 1.035 | 1.543 | 1.534 | 1.451 | 1.221 | 0.655 | 0.251 | 0.009 |
| 106 | 1.519 | 0.159 | 0.307 | 0.351 | 0.369 | 0.457 | 0.566 | 0.487 | 0.416 | 0.186 | 0.077 | 0.0 |
| 108 | 0.319 | 0.027 | 0.056 | 0.029 | 0.035 | 0.044 | 0.044 | 0.050 | 0.056 | 0.029 | 0.012 | 0.003 |
| 110 | 0.068 | 0.009 | 0.006 | 0.003 | 0.009 | 0.006 | 0.006 | 0.009 | 0.0 | 0.018 | 0.003 | 0.0 |
| 112 | 0.021 | 0.0 | 0.006 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.003 | 0.006 | 0.0 | 0.0 |
| 114 | 0.009 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 116 | 0.009 | 0.0 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 118 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 124 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 126 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 128 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 134 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 136 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 138 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 144 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 146 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 148 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 21.730 | 2.790 | 4.103 | 5.044 | 5.843 | 8.271 | 9.940 | 11.728 | 12.763 | 10.029 | 6.823 | 0.935 |

| | | | |
|---|---|---|---|
| * N | = 26335 | MEAN(E X P) | = 5233.23 |
| MEAN(E) | = 95.89 | MEAN(E) X MEAN(P) | = 5209.30 |
| MEAN(P) | = 54.33 | COVARIANCE(E,P) | = 23.92 |
| STD DEV(E) | = 12.63 | CORR COEFF(E,P) | = 0.076 |
| STD DEV(P) | = 24.85 | | |

* EXCLUDES MOTORING COLUMN FREQUENCY

TRUCK LA 45 TT DIESEL
NON-FREEWAY

NORMALIZED % RPM VS % POWER MATRIX
(N = 93626)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -20 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -18 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -8 | 0.001 | 0.002 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| -6 | 0.003 | 0.002 | 0.001 | 0.002 | 0.0 | 0.001 | 0.001 | 0.0 | 0.002 | 0.0 | 0.0 | 0.002 |
| -4 | 0.005 | 0.0 | 0.004 | 0.002 | 0.003 | 0.003 | 0.005 | 0.001 | 0.003 | 0.0 | 0.0 | 0.001 |
| -2 | 0.006 | 0.005 | 0.017 | 0.020 | 0.016 | 0.010 | 0.011 | 0.007 | 0.003 | 0.001 | 0.002 | 0.001 |
| 0 | 0.394 | 45.443 | 0.644 | 0.312 | 0.278 | 0.186 | 0.099 | 0.079 | 0.052 | 0.045 | 0.010 | 0.011 |
| 2 | 0.175 | 0.046 | 0.094 | 0.032 | 0.018 | 0.016 | 0.006 | 0.011 | 0.004 | 0.004 | 0.0 | 0.0 |
| 4 | 0.131 | 0.025 | 0.031 | 0.022 | 0.014 | 0.004 | 0.005 | 0.002 | 0.005 | 0.003 | 0.0 | 0.0 |
| 6 | 0.110 | 0.020 | 0.037 | 0.027 | 0.011 | 0.007 | 0.003 | 0.004 | 0.001 | 0.001 | 0.0 | 0.0 |
| 8 | 0.128 | 0.021 | 0.030 | 0.016 | 0.014 | 0.009 | 0.007 | 0.004 | 0.009 | 0.0 | 0.0 | 0.0 |
| 10 | 0.148 | 0.014 | 0.037 | 0.018 | 0.009 | 0.009 | 0.010 | 0.006 | 0.003 | 0.003 | 0.0 | 0.0 |
| 12 | 0.164 | 0.027 | 0.030 | 0.023 | 0.015 | 0.005 | 0.005 | 0.007 | 0.001 | 0.001 | 0.0 | 0.0 |
| 14 | 0.226 | 0.07[illegible] | 0.036 | 0.022 | 0.012 | 0.014 | 0.007 | 0.007 | 0.001 | 0.001 | 0.0 | 0.0 |
| 16 | 0.154 | 0 [illegible]3 | 0.031 | 0.011 | 0.010 | 0.007 | 0.005 | 0.004 | 0.005 | 0.0 | 0.0 | 0.0 |
| 18 | 0.158 | 0.021 | 0.020 | 0.011 | 0.007 | 0.010 | 0.002 | 0.011 | 0.003 | 0.0 | 0.0 | 0.0 |
| 20 | 0.215 | 0.011 | 0.021 | 0.016 | 0.013 | 0.011 | 0.002 | 0.004 | 0.006 | 0.003 | 0.0 | 0.0 |
| 22 | 0.241 | 0.011 | 0.017 | 0.015 | 0.009 | 0.014 | 0.018 | 0.007 | 0.005 | 0.001 | 0.0 | 0.0 |
| 24 | 0.280 | 0.018 | 0.021 | 0.012 | 0.011 | 0.007 | 0.009 | 0.005 | 0.003 | 0.001 | 0.0 | 0.0 |
| 26 | 0.288 | 0.028 | 0.029 | 0.014 | 0.010 | 0.012 | 0.012 | 0.007 | 0.009 | 0.001 | 0.0 | 0.0 |
| 28 | 0.201 | 0.019 | 0.029 | 0.010 | 0.007 | 0.014 | 0.006 | 0.010 | 0.004 | 0.0 | 0.0 | 0.0 |
| 30 | 0.208 | 0.020 | 0.019 | 0.012 | 0.003 | 0.016 | 0.010 | 0.006 | 0.002 | 0.003 | 0.001 | 0.0 |
| 32 | 0.221 | 0.018 | 0.020 | 0.017 | 0.012 | 0.017 | 0.010 | 0.011 | 0.009 | 0.0 | 0.0 | 0.001 |
| 34 | 0.264 | 0.016 | 0.020 | 0.016 | 0.014 | 0.013 | 0.012 | 0.012 | 0.006 | 0.003 | 0.002 | 0.0 |
| 36 | 0.246 | 0.007 | 0.011 | 0.013 | 0.007 | 0.012 | 0.014 | 0.018 | 0.010 | 0.004 | 0.0 | 0.001 |
| 38 | 0.261 | 0.019 | 0.017 | 0.012 | 0.007 | 0.013 | 0.014 | 0.006 | 0.009 | 0.002 | 0.0 | 0.0 |
| 40 | 0.350 | 0.019 | 0.028 | 0.014 | 0.025 | 0.014 | 0.021 | 0.015 | 0.017 | 0.003 | 0.002 | 0.0 |
| 42 | 0.248 | 0.011 | 0.013 | 0.013 | 0.014 | 0.011 | 0.007 | 0.015 | 0.016 | 0.001 | 0.001 | 0.0 |
| 44 | 0.270 | 0.021 | 0.015 | 0.014 | 0.021 | 0.013 | 0.015 | 0.005 | 0.007 | 0.0 | 0.001 | 0.0 |
| 46 | 0.282 | 0.013 | 0.011 | 0.010 | 0.005 | 0.012 | 0.012 | 0.007 | 0.013 | 0.003 | 0.002 | 0.0 |
| 48 | 0.287 | 0.010 | 0.023 | 0.015 | 0.017 | 0.012 | 0.009 | 0.006 | 0.004 | 0.0 | 0.0 | 0.0 |
| 50 | 0.283 | 0.016 | 0.021 | 0.010 | 0.013 | 0.012 | 0.009 | 0.012 | 0.001 | 0.003 | 0.001 | 0.0 |
| 52 | 0.305 | 0.007 | 0.016 | 0.011 | 0.016 | 0.007 | 0.012 | 0.007 | 0.005 | 0.003 | 0.0 | 0.0 |
| 54 | 0.438 | 0.013 | 0.036 | 0.015 | 0.013 | 0.015 | 0.013 | 0.009 | 0.009 | 0.001 | 0.001 | 0.0 |
| 56 | 0.361 | 0.017 | 0.023 | 0.019 | 0.010 | 0.017 | 0.021 | 0.011 | 0.005 | 0.006 | 0.0 | 0.0 |
| 58 | 0.409 | 0.034 | 0.020 | 0.022 | 0.010 | 0.016 | 0.016 | 0.010 | 0.007 | 0.001 | 0.0 | 0.0 |
| 60 | 0.425 | 0.021 | 0.029 | 0.019 | 0.016 | 0.012 | 0.010 | 0.009 | 0.010 | 0.002 | 0.0 | 0.0 |
| 62 | 0.453 | 0.029 | 0.028 | 0.022 | 0.018 | 0.018 | 0.009 | 0.012 | 0.003 | 0.001 | 0.0 | 0.0 |
| 64 | 0.454 | 0.034 | 0.032 | 0.014 | 0.014 | 0.014 | 0.019 | 0.009 | 0.015 | 0.005 | 0.0 | 0.0 |
| 66 | 0.724 | 0.027 | 0.051 | 0.036 | 0.028 | 0.029 | 0.016 | 0.017 | 0.011 | 0.004 | 0.0 | 0.0 |
| 68 | 0.562 | 0.033 | 0.045 | 0.026 | 0.016 | 0.031 | 0.025 | 0.025 | 0.014 | 0.002 | 0.004 | 0.0 |
| 70 | 0.622 | 0.029 | 0.061 | 0.032 | 0.038 | 0.025 | 0.022 | 0.034 | 0.014 | 0.007 | 0.005 | 0.0 |
| 72 | 0.681 | 0.040 | 0.073 | 0.041 | 0.030 | 0.028 | 0.032 | 0.022 | 0.026 | 0.014 | 0.002 | 0.0 |
| 74 | 0.699 | 0.054 | 0.078 | 0.041 | 0.050 | 0.052 | 0.049 | 0.036 | 0.035 | 0.020 | 0.011 | 0.001 |
| 76 | 0.721 | 0.048 | 0.084 | 0.059 | 0.046 | 0.052 | 0.064 | 0.069 | 0.053 | 0.027 | 0.022 | 0.004 |
| 78 | 0.759 | 0.052 | 0.099 | 0.069 | 0.051 | 0.064 | 0.065 | 0.099 | 0.097 | 0.075 | 0.058 | 0.013 |
| 80 | 1.096 | 0.080 | 0.131 | 0.109 | 0.105 | 0.103 | 0.110 | 0.121 | 0.174 | 0.187 | 0.173 | 0.038 |
| 82 | 0.827 | 0.064 | 0.082 | 0.080 | 0.064 | 0.074 | 0.098 | 0.117 | 0.176 | 0.208 | 0.184 | 0.050 |
| 84 | 0.828 | 0.060 | 0.085 | 0.078 | 0.074 | 0.083 | 0.094 | 0.141 | 0.201 | 0.199 | 0.164 | 0.034 |
| 86 | 0.845 | 0.049 | 0.067 | 0.060 | 0.081 | 0.103 | 0.103 | 0.135 | 0.242 | 0.226 | 0.153 | 0.026 |

[illegible]

NORMALIZED % RPM VS % POWER MATRIX
(N = 93626)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | 0.124 | 0.074 | 0.067 | 0.088 | 0.120 | 0.154 | 0.206 | 0.166 | 0.134 | 0.012 |
| [illegible] | [illegible] | [illegible] | 0.098 | 0.106 | 0.097 | 0.128 | 0.155 | 0.199 | 0.193 | 0.207 | 0.111 | 0.014 |
| [illegible] | [illegible] | [illegible] | 0.141 | 0.095 | 0.126 | 0.125 | 0.138 | 0.176 | 0.238 | 0.163 | 0.089 | 0.006 |
| [illegible] | [illegible] | [illegible] | 0.176 | 0.192 | 0.162 | 0.158 | 0.186 | 0.256 | 0.289 | 0.203 | 0.125 | 0.030 |
| [illegible] | [illegible] | [illegible] | 0.158 | 0.168 | 0.121 | 0.139 | 0.187 | 0.171 | 0.214 | 0.122 | 0.078 | 0.010 |
| [illegible] | [illegible] | [illegible] | 0.170 | 0.167 | 0.125 | 0.174 | 0.214 | 0.193 | 0.167 | 0.123 | 0.052 | 0.013 |
| [illegible] | [illegible] | [illegible] | 0.205 | 0.168 | 0.210 | 0.210 | 0.229 | 0.199 | 0.205 | 0.109 | 0.054 | 0.006 |
| [illegible] | [illegible] | [illegible] | 0.199 | 0.184 | 0.179 | 0.184 | 0.194 | 0.204 | 0.136 | 0.072 | 0.036 | 0.002 |
| [illegible] | [illegible] | [illegible] | 0.155 | 0.141 | 0.082 | 0.091 | 0.113 | 0.112 | 0.079 | 0.044 | 0.023 | 0.0 |
| [illegible] | [illegible] | [illegible] | 0.105 | 0.085 | 0.065 | 0.068 | 0.065 | 0.070 | 0.072 | 0.030 | 0.018 | 0.0 |
| [illegible] | [illegible] | [illegible] | 0.032 | 0.012 | 0.009 | 0.010 | 0.019 | 0.025 | 0.015 | 0.011 | 0.003 | 0.0 |
| [illegible] | [illegible] | [illegible] | 0.024 | 0.006 | 0.003 | 0.009 | 0.003 | 0.002 | 0.003 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.001 | 0.001 | 0.001 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.001 | 0.0 | 0.0 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.001 | 0.0 | 0.0 | 0.002 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 |
| TOTALS | [illegible] | [illegible] | 3.920 | 2.882 | 2.527 | 2.618 | 2.750 | 2.943 | 3.134 | 2.329 | 1.524 | 0.277 |

| | | | | | |
|---|---|---|---|---|---|
| * N | = | 67873 | MEAN(E X P) | = | 1305.72 |
| MEAN(E) | = | 28.59 | MEAN(E) X MEAN(P) | = | 458.20 |
| MEAN(P) | = | 16.03 | COVARIANCE(E,P) | = | 847.52 |
| STD DEV(E) | = | 41.54 | CORR COEFF(E,P) | = | 0.760 |
| STD DEV(P) | = | 26.84 | | | |

* EXCLUDES MOTORING COLUMN FREQUENCY

[illegible]

NORMALIZED % RPM VS % POWER MATRIX
(N = 127528)

| | [illegible] | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.021 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.002 | 0.0 | 0.001 | 0.001 | 0.0 | 0.002 | 0.0 | 0.0 | 0.002 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.002 | 0.002 | 0.002 | 0.004 | 0.001 | 0.002 | 0.0 | 0.0 | 0.001 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.015 | 0.012 | 0.007 | 0.038 | 0.005 | 0.002 | 0.001 | 0.002 | 0.001 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.232 | 0.206 | 0.143 | 0.073 | 0.060 | 0.040 | 0.034 | 0.007 | 0.008 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.024 | 0.014 | 0.012 | 0.005 | 0.008 | 0.003 | 0.003 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.017 | 0.010 | 0.004 | 0.004 | 0.002 | 0.004 | 0.002 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.020 | 0.008 | 0.005 | 0.002 | 0.003 | 0.002 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.012 | 0.010 | 0.007 | 0.006 | 0.003 | 0.007 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.013 | 0.007 | 0.006 | 0.007 | 0.005 | 0.002 | 0.002 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.018 | 0.011 | 0.004 | 0.004 | 0.005 | 0.001 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.016 | 0.009 | 0.010 | 0.005 | 0.005 | 0.001 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.008 | 0.007 | 0.005 | 0.004 | 0.003 | 0.004 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.009 | 0.005 | 0.007 | 0.002 | 0.009 | 0.002 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.013 | 0.009 | 0.008 | 0.002 | 0.003 | 0.005 | 0.002 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.012 | 0.006 | 0.010 | 0.013 | 0.006 | 0.004 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.010 | 0.008 | 0.005 | 0.006 | 0.004 | 0.003 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.012 | 0.009 | 0.009 | 0.009 | 0.005 | 0.006 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.009 | 0.007 | 0.011 | 0.005 | 0.007 | 0.004 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.009 | 0.003 | 0.013 | 0.008 | 0.005 | 0.002 | 0.002 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.013 | 0.009 | 0.013 | 0.008 | 0.008 | 0.006 | 0.0 | 0.0 | 0.001 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.016 | 0.012 | 0.009 | 0.009 | 0.009 | 0.005 | 0.003 | 0.002 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.010 | 0.006 | 0.009 | 0.011 | 0.015 | 0.008 | 0.003 | 0.0 | 0.001 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.009 | 0.005 | 0.011 | 0.012 | 0.006 | 0.008 | 0.002 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.011 | 0.019 | 0.011 | 0.016 | 0.013 | 0.013 | 0.002 | 0.002 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.010 | 0.011 | 0.009 | 0.006 | 0.011 | 0.012 | 0.001 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.012 | 0.016 | 0.010 | 0.011 | 0.006 | 0.005 | 0.0 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.009 | 0.006 | 0.009 | 0.009 | 0.005 | 0.009 | 0.002 | 0.002 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.013 | 0.013 | 0.009 | 0.007 | 0.005 | 0.003 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.013 | 0.009 | 0.009 | 0.007 | 0.009 | 0.001 | 0.002 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.009 | 0.012 | 0.006 | 0.009 | 0.007 | 0.004 | 0.002 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.013 | 0.010 | 0.011 | 0.010 | 0.007 | 0.006 | 0.001 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.015 | 0.010 | 0.013 | 0.016 | 0.008 | 0.005 | 0.005 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.018 | 0.008 | 0.013 | 0.012 | 0.008 | 0.006 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.015 | 0.014 | 0.013 | 0.007 | 0.006 | 0.007 | 0.003 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.017 | 0.016 | 0.016 | 0.010 | 0.009 | 0.002 | 0.001 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.012 | 0.010 | 0.013 | 0.016 | 0.008 | 0.013 | 0.004 | 0.0 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.029 | 0.024 | 0.024 | 0.013 | 0.013 | 0.011 | 0.004 | 0.001 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.022 | 0.013 | 0.027 | 0.020 | 0.019 | 0.013 | 0.003 | 0.003 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.025 | 0.031 | 0.021 | 0.017 | 0.028 | 0.012 | 0.007 | 0.004 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.034 | 0.027 | 0.024 | 0.026 | 0.018 | 0.027 | 0.013 | 0.004 | 0.0 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.035 | 0.041 | 0.046 | 0.040 | 0.030 | 0.034 | 0.020 | 0.016 | 0.001 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.049 | 0.041 | 0.047 | 0.055 | 0.065 | 0.049 | 0.032 | 0.025 | 0.003 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.057 | 0.045 | 0.059 | 0.056 | 0.089 | 0.085 | 0.074 | 0.065 | 0.013 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.096 | 0.096 | 0.096 | 0.104 | 0.123 | 0.162 | 0.187 | 0.183 | 0.054 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.070 | 0.356 | 0.072 | 0.093 | 0.118 | 0.176 | 0.202 | 0.209 | 0.067 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.075 | 0.069 | 0.083 | 0.097 | 0.158 | 0.205 | 0.223 | 0.208 | 0.044 |
| [illegible] | [illegible] | [illegible] | [illegible] | 0.067 | 0.082 | 0.116 | 0.124 | 0.165 | 0.265 | 0.251 | 0.207 | 0.037 |

TRUCK LB HD    TT DIESEL
COMBINED

NORMALIZED % RPM VS % POWER MATRIX
(N = 127528)

| | MOTOR* | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | 0.154 | 0.101 | 0.078 | 0.085 | 0.126 | 0.146 | 0.194 | 0.305 | 0.260 | 0.206 | 0.030 |
| [illegible] | [illegible] | 0.067 | 0.057 | 0.107 | 0.103 | 0.148 | 0.176 | 0.235 | 0.293 | 0.302 | 0.184 | 0.026 |
| [illegible] | [illegible] | 0.065 | 0.147 | 0.107 | 0.151 | 0.163 | 0.191 | 0.255 | 0.352 | 0.307 | 0.194 | 0.022 |
| [illegible] | [illegible] | 0.119 | 0.200 | 0.226 | 0.199 | 0.238 | 0.335 | 0.394 | 0.542 | 0.466 | 0.321 | 0.042 |
| [illegible] | [illegible] | 0.139 | 0.178 | 0.209 | 0.209 | 0.236 | 0.345 | 0.399 | 0.450 | 0.363 | 0.286 | 0.029 |
| [illegible] | [illegible] | 0.151 | 0.237 | 0.245 | 0.258 | 0.356 | 0.488 | 0.604 | 0.572 | 0.390 | 0.242 | 0.042 |
| [illegible] | [illegible] | 0.169 | 0.326 | 0.347 | 0.381 | 0.504 | 0.635 | 0.693 | 0.723 | 0.501 | 0.231 | 0.014 |
| [illegible] | [illegible] | 0.210 | 0.350 | 0.419 | 0.460 | 0.594 | 0.634 | 0.710 | 0.628 | 0.386 | 0.202 | 0.012 |
| [illegible] | [illegible] | 0.149 | 0.276 | 0.314 | 0.336 | 0.477 | 0.491 | 0.468 | 0.383 | 0.206 | 0.084 | 0.002 |
| [illegible] | [illegible] | 0.096 | 0.138 | 0.156 | 0.146 | 0.172 | 0.198 | 0.181 | 0.163 | 0.071 | 0.034 | 0.0 |
| [illegible] | [illegible] | 0.022 | 0.030 | 0.016 | 0.016 | 0.019 | 0.026 | 0.031 | 0.026 | 0.016 | 0.005 | 0.001 |
| [illegible] | [illegible] | 0.006 | 0.005 | 0.004 | 0.005 | 0.008 | 0.004 | 0.004 | 0.002 | 0.005 | 0.001 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.002 | 0.0 | 0.001 | 0.001 | 0.001 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.001 | 0.002 | 0.0 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.001 | 0.0 | 0.0 | 0.002 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.0 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 |
| TOTALS | [illegible] | [illegible] | 3.969 | 3.456 | 3.409 | 4.121 | 4.662 | 5.278 | 5.694 | 4.376 | 2.933 | 0.452 |

| | | | | |
|---|---|---|---|---|
| * N | = 96400 | | MEAN(E X P) | = 2409.62 |
| MEAN(E) | = 47.53 | | MEAN(E) X MEAN(P) | = 1272.75 |
| MEAN(P) | = 26.79 | | COVARIANCE(E,P) | = 1136.88 |
| STD DEV(E) | = 46.91 | | CORR COEFF(E,P) | = 0.771 |
| STD DEV(P) | = 31.43 | | | |

* EXCLUDES MOTORING COLUMN FREQUENCY

RPM DENSITY AND DISTRIBUTION FUNCTIONS

| | FREEWAY | | | NON-FREEWAY | | | COMBINED | | |
|---|---|---|---|---|---|---|---|---|---|
| | FREQ. | DENS. | DIST. | FREQ. | DENS. | DIST. | FREQ. | DENS. | DIST. |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| | 1 | 0.0 | 0.0 | 5 | 0.01 | 0.01 | 5 | 0.00 | 0.00 |
| | 0 | 0.0 | 0.0 | 14 | 0.01 | 0.02 | 14 | 0.01 | 0.01 |
| | 0 | 0.0 | 0.0 | 27 | 0.03 | 0.05 | 27 | 0.02 | 0.04 |
| | 0 | 0.0 | 0.0 | 94 | 0.10 | 0.15 | 94 | 0.07 | 0.11 | |
| | 694 | 0.76 | 0.76 | 44827 | 47.55 | 47.70 | 44777 | 35.11 | 35.22 |
| | 34 | 0.03 | 0.80 | 381 | 0.41 | 48.11 | 397 | 0.31 | 35.53 |
| | 0 | 0.00 | 0.80 | 220 | 0.24 | 48.35 | 234 | 0.18 | 35.72 |
| | 0 | 0.00 | 0.80 | 206 | 0.22 | 48.57 | 214 | 0.17 | 35.88 |
| | 0 | 0.00 | 0.80 | 223 | 0.24 | 48.81 | 229 | 0.18 | 36.06 |
| | 0 | 0.00 | 0.80 | 262 | 0.28 | 49.09 | 264 | 0.19 | 36.26 |
| | 2 | 0.00 | 0.80 | 341 | 0.36 | 49.35 | 268 | 0.21 | 36.47 |
| | 0 | 0.00 | 0.80 | 225 | 0.24 | 49.71 | 343 | 0.27 | 36.74 |
| | 0 | 0.00 | 0.80 | 228 | 0.24 | 49.95 | 229 | 0.18 | 36.91 |
| | 11 | 0.01 | 0.81 | 283 | 0.30 | 50.20 | 236 | 0.19 | 37.10 |
| | 11 | 0.01 | 0.81 | 317 | 0.34 | 50.50 | 294 | 0.23 | 37.33 |
| | 6 | 0.00 | 0.81 | 344 | 0.37 | 50.84 | 328 | 0.26 | 37.59 |
| | 17 | 0.01 | 1.82 | 383 | 0.41 | 51.21 | 353 | 0.28 | 37.86 |
| | 14 | 0.01 | 1.83 | 281 | 0.30 | 51.61 | 405 | 0.32 | 38.18 |
| | 15 | 0.01 | 1.84 | 282 | 0.30 | 51.91 | 295 | 0.23 | 38.41 |
| | 17 | 0.01 | 1.85 | 314 | 0.34 | 52.22 | 301 | 0.24 | 38.65 |
| | 14 | 0.01 | 1.86 | 354 | 0.38 | 52.55 | 331 | 0.26 | 38.91 |
| | 20 | 0.01 | 1.87 | 321 | 0.34 | 52.93 | 373 | 0.29 | 39.20 |
| | 16 | 0.01 | 1.88 | 337 | 0.36 | 53.27 | 349 | 0.27 | 39.48 |
| | 25 | 0.01 | 1.91 | 470 | 0.51 | 53.63 | 363 | 0.28 | 39.76 |
| | 24 | 0.01 | 1.92 | 327 | 0.35 | 54.14 | 496 | 0.39 | 40.15 |
| | 25 | 0.01 | 1.93 | 359 | 0.38 | 54.49 | 351 | 0.28 | 40.42 |
| | 25 | 0.01 | 1.94 | 346 | 0.37 | 54.87 | 388 | 0.30 | 40.73 |
| | 29 | 0.01 | 1.95 | 359 | 0.38 | 55.24 | 371 | 0.29 | 41.02 |
| | 30 | 0.01 | 1.96 | 356 | 0.38 | 55.63 | 384 | 0.30 | 41.32 |
| | 29 | 0.01 | 1.97 | 366 | 0.39 | 56.01 | 387 | 0.30 | 41.62 |
| | 47 | 0.02 | 2.00 | 526 | 0.56 | 56.40 | 394 | 0.31 | 41.93 |
| | 41 | 0.02 | 2.02 | 460 | 0.49 | 56.96 | 573 | 0.45 | 42.38 |
| | 42 | 0.02 | 2.04 | 511 | 0.55 | 57.45 | 501 | 0.39 | 42.77 |
| | 37 | 0.02 | 2.06 | 517 | 0.55 | 58.00 | 553 | 0.43 | 43.21 |
| | 40 | 0.02 | 2.08 | 555 | 0.59 | 58.55 | 574 | 0.45 | 43.66 |
| | 39 | 0.02 | 2.10 | 571 | 0.61 | 59.14 | 615 | 0.48 | 44.14 |
| | 53 | 0.02 | 2.12 | 883 | 0.94 | 59.75 | 628 | 0.49 | 44.63 |
| | 61 | 0.03 | 2.15 | 732 | 0.78 | 60.69 | 976 | 0.77 | 45.40 |
| | 60 | 0.03 | 2.18 | 833 | 0.89 | 61.48 | 813 | 0.64 | 46.04 |
| | 132 | 0.06 | 2.24 | 925 | 0.99 | 62.37 | 923 | 0.72 | 46.76 |
| | 104 | 0.05 | 2.29 | 1055 | 1.13 | 63.35 | 1057 | 0.83 | 47.59 |
| | 124 | 0.06 | 2.35 | 1171 | 1.25 | 64.48 | 1219 | 0.96 | 48.54 |
| | 108 | 0.05 | 2.40 | 1407 | 1.50 | 65.73 | 1395 | 1.09 | 49.64 |
| | 177 | 0.08 | 2.48 | 2272 | 2.43 | 67.23 | 1715 | 1.34 | 50.98 |
| | 146 | 0.07 | 2.55 | 1896 | 2.03 | 69.66 | 2849 | 2.23 | 53.22 |
| | 118 | 0.05 | 2.60 | 1911 | 2.04 | 71.69 | 2442 | 1.91 | 55.13 |
| | 257 | 0.11 | 2.71 | 1954 | 2.09 | 73.73 | 2619 | 2.05 | 57.19 |
| | 257 | 0.11 | 2.83 | 1954 | 2.09 | 75.81 | 2811 | 2.20 | 59.39 |

[illegible] TT DIESEL

RPM DENSITY AND DISTRIBUTION FUNCTIONS

| | FREEWAY | | | NON-FREEWAY | | | COMBINED | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | FREQ. | DENS. | DIST. | FREQ. | DENS. | DIST. | FREQ. | DENS. | DIST. |
| [illegible] | [illegible] | 3.39 | 17.38 | 1945 | 2.08 | 77.89 | 3080 | 2.42 | 61.80 |
| [illegible] | [illegible] | 3.46 | 20.84 | 2194 | 2.34 | 80.23 | 3368 | 2.64 | 64.45 |
| [illegible] | [illegible] | 4.26 | 25.10 | 2251 | 2.40 | 82.64 | 3696 | 2.90 | 67.34 |
| [illegible] | [illegible] | 7.55 | 32.66 | 3111 | 3.32 | 85.96 | 5672 | 4.45 | 71.79 |
| [illegible] | [illegible] | 7.71 | 40.37 | 2464 | 2.63 | 88.59 | 5077 | 3.98 | 75.77 |
| [illegible] | [illegible] | 11.03 | 51.40 | 2517 | 2.69 | 91.28 | 6256 | 4.91 | 80.68 |
| [illegible] | [illegible] | 14.70 | 66.10 | 2668 | 2.85 | 94.13 | 7653 | 6.00 | 86.68 |
| [illegible] | [illegible] | 16.27 | 82.37 | 2342 | 2.50 | 96.63 | 7858 | 6.16 | 92.84 |
| [illegible] | [illegible] | 11.83 | 94.20 | 1558 | 1.66 | 98.30 | 5568 | 4.37 | 97.21 |
| [illegible] | [illegible] | 4.89 | 99.09 | 1131 | 1.21 | 99.51 | 2790 | 2.19 | 99.39 |
| [illegible] | [illegible] | 0.70 | 99.80 | 296 | 0.32 | 99.82 | 535 | 0.42 | 99.81 |
| [illegible] | [illegible] | 0.14 | 99.93 | 65 | 0.07 | 99.89 | 111 | 0.09 | 99.90 |
| [illegible] | [illegible] | 0.04 | 99.97 | 15 | 0.02 | 99.91 | 28 | 0.02 | 99.92 |
| [illegible] | [illegible] | 0.01 | 99.99 | 7 | 0.01 | 99.91 | 12 | 0.01 | 99.93 |
| [illegible] | [illegible] | 0.01 | 100.00 | 7 | 0.01 | 99.92 | 12 | 0.01 | 99.94 |
| [illegible] | [illegible] | 0.0 | 100.00 | 8 | 0.01 | 99.93 | 8 | 0.01 | 99.95 |
| [illegible] | [illegible] | 0.0 | 100.00 | 5 | 0.01 | 99.94 | 5 | 0.00 | 99.95 |
| [illegible] | [illegible] | 0.0 | 100.00 | 2 | 0.00 | 99.94 | 2 | 0.00 | 99.95 |
| [illegible] | [illegible] | 0.0 | 100.00 | 2 | 0.00 | 99.94 | 2 | 0.00 | 99.96 |
| [illegible] | [illegible] | 0.0 | 100.00 | 1 | 0.00 | 99.94 | 1 | 0.00 | 99.96 |
| [illegible] | [illegible] | 0.0 | 100.00 | 2 | 0.00 | 99.94 | 2 | 0.00 | 99.96 |
| [illegible] | [illegible] | 0.0 | 100.00 | 1 | 0.00 | 99.94 | 1 | 0.00 | 99.96 |
| [illegible] | [illegible] | 0.0 | 100.00 | 1 | 0.00 | 99.94 | 1 | 0.00 | 99.96 |
| [illegible] | [illegible] | 0.0 | 100.00 | 6 | 0.01 | 99.95 | 6 | 0.00 | 99.96 |
| [illegible] | [illegible] | 0.0 | 100.00 | 8 | 0.01 | 99.96 | 8 | 0.01 | 99.97 |
| [illegible] | [illegible] | 0.0 | 100.00 | 2 | 0.00 | 99.96 | 2 | 0.00 | 99.97 |
| [illegible] | [illegible] | 0.0 | 100.00 | 3 | 0.00 | 99.97 | 3 | 0.00 | 99.97 |
| [illegible] | [illegible] | 0.0 | 100.00 | 1 | 0.00 | 99.97 | 1 | 0.00 | 99.98 |
| [illegible] | [illegible] | 0.0 | 100.00 | 2 | 0.00 | 99.97 | 2 | 0.00 | 99.98 |
| [illegible] | [illegible] | 0.0 | 100.00 | 4 | 0.00 | 99.97 | 4 | 0.00 | 99.98 |
| [illegible] | [illegible] | 0.0 | 100.00 | 4 | 0.00 | 99.98 | 4 | 0.00 | 99.98 |
| [illegible] | [illegible] | 0.0 | 100.00 | 21 | 0.02 | 100.00 | 21 | 0.02 | 100.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| N | = | [illegible] | N | = | 93626 | N | = | 127528 | |
| MEAN | = | [illegible] | MEAN | = | 40.45 | MEAN | = | 54.96 | |
| MEDIAN | = | [illegible] | MEDIAN | = | 17.38 | MEDIAN | = | 77.54 | |
| STD DEV | = | [illegible] | STD DEV | = | 42.83 | STD DEV | = | 44.46 | |

NORMALIZED SPEED VS & RPM MATRIX - CHANNEL 5
(N = 33902)

| | -30 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.0 | 0.007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.009 | 0.002 | 0.002 | 0.010 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 | 0.007 | 0.010 | 0.027 | 0.035 | 0.041 | 0.044 | 0.029 | 0.015 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0.0 | 0.0 | 0.015 | 0.006 | 0.006 | 0.027 | 0.059 | 0.035 | 0.062 | 0.071 | 0.062 | 0.041 | 0.038 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 0.0 | 0.0 | 0.015 | 0.0 | 0.006 | 0.015 | 0.027 | 0.100 | 0.112 | 0.056 | 0.097 | 0.086 | 0.088 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 0.0 | 0.0 | 0.006 | 0.0 | 0.003 | 0.029 | 0.021 | 0.041 | 0.056 | 0.215 | 0.289 | 0.097 | 0.088 | 0.103 | 0.009 | 0.0 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.003 | 0.009 | 0.003 | 0.003 | 0.024 | 0.032 | 0.065 | 0.147 | 0.280 | 0.289 | 0.422 | 0.065 | 0.003 | 0.0 | 0.0 | 0.0 |
| 14 | 0.0 | 0.0 | 0.003 | 0.006 | 0.006 | 0.0 | 0.003 | 0.012 | 0.018 | 0.147 | 0.118 | 0.369 | 0.513 | 0.027 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16 | 0.0 | 0.0 | 0.006 | 0.0 | 0.006 | 0.003 | 0.024 | 0.009 | 0.062 | 0.062 | 0.295 | 0.369 | 0.434 | 0.133 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 0.0 | 0.0 | 0.003 | 0.0 | 0.009 | 0.044 | 0.027 | 0.029 | 0.044 | 0.201 | 0.212 | 0.180 | 0.732 | 0.068 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 0.0 | 0.0 | 0.006 | 0.0 | 0.003 | 0.021 | 0.041 | 0.012 | 0.044 | 0.044 | 0.251 | 0.372 | 0.059 | 0.139 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 0.0 | 0.0 | 0.009 | 0.003 | 0.0 | 0.003 | 0.012 | 0.006 | 0.003 | 0.059 | 0.215 | 0.265 | 5.029 | 0.053 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24 | 0.0 | 0.0 | 0.009 | 0.0 | 0.007 | 0.003 | 0.015 | 0.009 | 0.024 | 0.018 | 0.322 | 0.366 | 0.339 | 0.147 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.006 | 0.009 | 0.015 | 0.006 | 0.080 | 0.050 | 1.212 | 2.257 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.012 | 0.012 | 0.015 | 0.038 | 0.513 | 0.106 | 4.419 | 0.575 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.021 | 0.041 | 0.038 | 0.333 | 0.850 | 0.059 | 0.041 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.035 | 0.015 | 0.165 | 0.018 | 1.168 | 1.528 | 0.029 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.044 | 0.018 | 0.035 | 0.091 | 0.088 | 0.316 | 0.018 | 3.153 | 0.268 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.032 | 0.027 | 0.012 | 0.071 | 0.047 | 0.779 | 0.227 | 0.029 | 0.322 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.0 | 0.0 | 0.050 | 0.029 | 1.457 | 0.006 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.050 | 0.024 | 0.767 | 1.876 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.009 | 0.507 | 0.091 | 3.982 | 0.204 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 1.136 | 0.324 | 0.088 | 0.280 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.047 | 3.274 | 0.012 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 0.003 | 5.200 | 1.699 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.018 | 0.012 | 0.239 | 18.256 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.024 | 0.215 | 0.021 | 15.978 | 2.752 | 0.003 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.575 | 0.044 | 0.021 | 0.566 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.260 | 1.274 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.003 | 1.838 | 0.0 | 0.003 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.608 | 0.372 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.056 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 0.0 | 0.0 | 0.020 | 0.034 | 0.127 | 0.268 | 0.375 | 0.460 | 0.750 | 1.652 | 6.970 | 21.155 | 61.539 | 5.787 | 0.015 | 0.0 | 0.0 | 0.0 |

| | | | |
|---|---|---|---|
| N | = 33902 | MEAN(S X E) | = 3838.47 |
| MEAN(S) | = 40.29 | MEAN(S) X MEAN(E) | = 3812.76 |
| MEAN(E) | = 94.64 | COVARIANCE(S,E) | = 75.72 |
| STD DEV(S) | = 13.57 | CORR COEFF(S,E) | = 0.408 |
| STD DEV(E) | = 13.69 | | |

[illegible] FT DIESEL

NORMALIZED SPEED VS % RPM MATRIX - CHANNEL 5
(N = 93626)

| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.519 | 0.301 | 0.189 | 0.151 | 0.364 | 0.402 | 0.200 | 0.010 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.313 | 0.172 | 0.078 | 0.012 | 0.003 | 0.0 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.283 | 0.533 | 0.672 | 0.775 | 0.691 | 0.383 | 0.357 | 0.094 | 0.003 | 0.0 | 0.0 | 0.001 | 0.0 |
| 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.217 | 0.253 | 0.126 | 0.234 | 0.603 | 1.178 | 1.190 | 0.551 | 0.040 | 0.0 | 0.0 | 0.001 | 0.0 |
| 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.059 | 0.184 | 0.371 | 0.426 | 0.330 | 0.652 | 1.074 | 0.357 | 0.026 | 0.003 | 0.001 | 0.0 | 0.0 |
| 10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.079 | 0.161 | 0.171 | 0.302 | 0.669 | 0.738 | 0.485 | 0.728 | 0.131 | 0.002 | 0.001 | 0.002 | 0.001 |
| 12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.023 | 0.083 | 0.103 | 0.156 | 0.342 | 0.658 | 0.674 | 0.563 | 0.029 | 0.0 | 0.0 | 0.001 | 0.003 |
| 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.010 | 0.023 | 0.123 | 0.113 | 0.328 | 0.359 | 0.608 | 0.582 | 0.014 | 0.001 | 0.001 | 0.002 | 0.002 |
| 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.015 | 0.023 | 0.036 | 0.191 | 0.154 | 0.687 | 0.593 | 0.317 | 0.065 | 0.002 | 0.0 | 0.0 | 0.0 |
| 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.125 | 0.113 | 0.066 | 0.110 | 0.496 | 0.581 | 0.371 | 0.903 | 0.085 | 0.002 | 0.001 | 0.001 | 0.006 |
| 20 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.030 | 0.061 | 0.047 | 0.064 | 0.105 | 0.549 | 0.951 | 0.065 | 0.200 | 0.002 | 0.0 | 0.0 | 0.004 |
| 22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.006 | 0.010 | 0.049 | 0.057 | 0.131 | 0.381 | 0.539 | 1.437 | 0.031 | 0.002 | 0.003 | 0.003 | 0.004 |
| 24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.003 | 0.012 | 0.006 | 0.119 | 0.059 | 0.758 | 0.638 | 0.137 | 0.117 | 0.005 | 0.004 | 0.0 | 0.003 |
| 26 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.001 | 0.001 | 0.019 | 0.006 | 0.261 | 0.048 | 0.970 | 0.673 | 0.004 | 0.0 | 0.0 | 0.002 | 0.002 |
| 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.002 | 0.010 | 0.029 | 0.063 | 0.864 | 0.096 | 0.908 | 0.230 | 0.001 | 0.0 | 0.003 | 0.004 |
| 30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.002 | 0.004 | 0.026 | 0.011 | 0.533 | 1.071 | 0.007 | 0.018 | 0.003 | 0.0 | 0.0 | 0.0 |
| 32 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.004 | 0.0 | 0.056 | 0.002 | 1.386 | 0.969 | 0.015 | 0.001 | 0.0 | 0.0 | 0.0 |
| 34 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.004 | 0.011 | 0.013 | 0.049 | 0.152 | 0.004 | 2.774 | 0.248 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.004 | 0.001 | 0.007 | 0.009 | 0.268 | 0.090 | 0.023 | 0.336 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.001 | 0.003 | 0.003 | 0.586 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.004 | 0.0 | 0.241 | 0.351 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.023 | 0.001 | 0.355 | 0.022 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.026 | 0.010 | 0.003 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.058 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.042 | 0.019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.428 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.081 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | [illegible] | [illegible] | [illegible] | 1.262 | 1.492 | 1.724 | 1.964 | 2.086 | 2.792 | 4.729 | 9.246 | 12.235 | 12.335 | 1.617 | 0.026 | 0.012 | 0.017 | 0.031 |

| | | | |
|---|---|---|---|
| N | = 93626 | MEAN(S X E) | = 773.83 |
| MEAN(S) | = 8.84 | MEAN(S) X MEAN(E) | = 357.28 |
| MEAN(E) | = 40.39 | COVARIANCE(S,E) | = 416.55 |
| STD DEV(S) | = 12.04 | CORR COEFF(S,E) | = 0.808 |
| STD DEV(E) | = 42.83 | | |

TRUCK LB 40 TT DIESEL
COMBINED

NORMALIZED SPEED VS % RPM MATRIX - CHANNEL 5
(N = 127528)

| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.013 | 36.191 | 0.699 | 0.345 | 0.381 | 0.221 | 0.139 | 0.111 | 0.267 | 0.295 | 0.147 | 0.007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.002 | 1.192 | 0.375 | 0.338 | 0.236 | 0.129 | 0.057 | 0.009 | 0.002 | 0.0 | 0.001 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.001 | 0.176 | 0.088 | 0.110 | 0.217 | 0.402 | 0.505 | 0.577 | 0.511 | 0.284 | 0.262 | 0.069 | 0.002 | 0.0 | 0.0 | 0.001 | 0.0 |
| 6 | 0.0 | 0.0 | 0.062 | 0.219 | 0.051 | 0.166 | 0.202 | 0.102 | 0.186 | 0.462 | 0.881 | 0.885 | 0.415 | 0.031 | 0.0 | 0.0 | 0.001 | 0.0 |
| 8 | 0.0 | 0.0 | 0.034 | 0.008 | 0.025 | 0.047 | 0.142 | 0.299 | 0.343 | 0.257 | 0.504 | 0.812 | 0.285 | 0.019 | 0.002 | 0.001 | 0.0 | 0.0 |
| 10 | 0.0 | 0.0 | 0.019 | 0.005 | 0.319 | 0.060 | 0.126 | 0.136 | 0.237 | 0.548 | 0.619 | 0.382 | 0.558 | 0.124 | 0.004 | 0.001 | 0.002 | 0.001 |
| 12 | 0.0 | 0.0 | 0.012 | 0.009 | 0.003 | 0.018 | 0.067 | 0.084 | 0.132 | 0.290 | 0.558 | 0.572 | 0.525 | 0.038 | 0.001 | 0.0 | 0.001 | 0.002 |
| 14 | 0.0 | 0.0 | 0.009 | 0.006 | 0.007 | 0.007 | 0.018 | 0.093 | 0.088 | 0.280 | 0.295 | 0.544 | 0.564 | 0.017 | 0.001 | 0.001 | 0.002 | 0.002 |
| 16 | 0.0 | 0.0 | 0.005 | 0.002 | 0.005 | 0.012 | 0.024 | 0.029 | 0.157 | 0.129 | 0.583 | 0.533 | 0.348 | 0.083 | 0.002 | 0.0 | 0.0 | 0.0 |
| 18 | 0.0 | 0.0 | 0.005 | 0.007 | 0.319 | 0.104 | 0.090 | 0.056 | 0.093 | 0.417 | 0.483 | 0.320 | 0.857 | 0.081 | 0.002 | 0.001 | 0.001 | 0.005 |
| 20 | 0.0 | 0.0 | 0.003 | 0.002 | 0.001 | 0.027 | 0.056 | 0.038 | 0.059 | 0.089 | 0.470 | 0.797 | 0.064 | 0.183 | 0.002 | 0.0 | 0.0 | 0.003 |
| 22 | 0.0 | 0.0 | 0.003 | 0.001 | 0.002 | 0.004 | 0.010 | 0.038 | 0.042 | 0.112 | 0.337 | 0.467 | 2.392 | 0.037 | 0.002 | 0.002 | 0.002 | 0.003 |
| 24 | 0.0 | 0.0 | 0.003 | 0.001 | 0.001 | 0.003 | 0.013 | 0.007 | 0.093 | 0.048 | 0.642 | 0.565 | 0.191 | 0.125 | 0.004 | 0.003 | 0.0 | 0.002 |
| 26 | 0.0 | 0.0 | 0.002 | 0.0 | 0.0 | 0.002 | 0.003 | 0.018 | 0.006 | 0.213 | 0.049 | 1.034 | 1.094 | 0.003 | 0.0 | 0.0 | 0.002 | 0.002 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.005 | 0.010 | 0.025 | 0.056 | 0.771 | 0.099 | 1.841 | 0.321 | 0.001 | 0.0 | 0.002 | 0.003 |
| 30 | 0.0 | 0.0 | 0.002 | 0.0 | 0.0 | 0.0 | 0.003 | 0.009 | 0.030 | 0.018 | 0.480 | 1.012 | 0.021 | 0.024 | 0.002 | 0.0 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 | 0.002 | 0.001 | 0.0 | 0.002 | 0.0 | 0.013 | 0.004 | 0.085 | 0.006 | 1.328 | 1.117 | 0.019 | 0.001 | 0.0 | 0.0 | 0.0 |
| 34 | 0.0 | 0.0 | 0.0 | 0.001 | 0.003 | 0.032 | 0.008 | 0.017 | 0.034 | 0.060 | 0.195 | 0.008 | 2.875 | 0.253 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.019 | 0.010 | 0.004 | 0.024 | 0.019 | 0.404 | 0.126 | 0.025 | 0.332 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 0.0 | 0.001 | 0.016 | 0.010 | 0.818 | 0.002 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.016 | 0.006 | 0.381 | 0.757 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.152 | 0.025 | 1.319 | 0.071 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.002 | 0.321 | 0.093 | 0.026 | 0.075 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.013 | 0.913 | 0.003 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.001 | 1.413 | 0.466 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.005 | 0.003 | 0.064 | 5.167 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.006 | 0.057 | 0.005 | 4.307 | 0.732 | 0.001 | 0.0 | 0.0 | 0.0 |
| 54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.153 | 0.012 | 0.005 | 0.151 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.069 | 0.339 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.489 | 0.0 | 0.001 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.162 | 0.099 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.015 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 0.0 | 0.019 | 38.781 | 1.319 | 1.129 | 1.337 | 1.527 | 1.654 | 2.251 | 3.911 | 8.641 | 14.606 | 25.416 | 2.726 | 0.023 | 0.009 | 0.013 | 0.023 |

| | | | |
|---|---|---|---|
| N | = | 127528 | MEAN(S X E) = 1601.83 |
| MEAN(S) | = | 17.20 | MEAN(S) X MEAN(E) = 943.00 |
| MEAN(E) | = | 54.82 | COVARIANCE(S,E) = 658.83 |
| STD DEV(S) | = | 18.66 | CORR COEFF(S,E) = 0.795 |
| STD DEV(E) | = | 44.40 | |

TRAIN LB 45 TT DIESEL — NORMALIZED SPEED VS % POWER MATRIX - CHANNEL 5
(N = 33902)

| MPH | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.0 | 0.000 | 0.0 | 0.009 | 0.009 | 0.024 | 0.0 | 0.006 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.871 | 0.159 | 0.032 | 0.018 | 0.006 | 0.006 | 0.003 | 0.009 | 0.012 | 0.003 | 0.0 | 0.0 |
| 4 | 0.147 | 0.024 | 0.009 | 0.027 | 0.032 | 0.009 | 0.009 | 0.003 | 0.006 | 0.0 | 0.0 | 0.0 |
| 6 | 0.263 | 0.029 | 0.041 | 0.027 | 0.024 | 0.029 | 0.009 | 0.003 | 0.003 | 0.0 | 0.0 | 0.0 |
| 8 | 0.360 | 0.029 | 0.035 | 0.056 | 0.038 | 0.035 | 0.029 | 0.015 | 0.018 | 0.0 | 0.0 | 0.0 |
| 10 | 0.537 | 0.050 | 0.094 | 0.027 | 0.035 | 0.071 | 0.047 | 0.041 | 0.035 | 0.0 | 0.0 | 0.0 |
| 12 | 0.603 | 0.071 | 0.124 | 0.133 | 0.100 | 0.118 | 0.074 | 0.041 | 0.044 | 0.032 | 0.003 | 0.0 |
| 14 | 0.665 | 0.029 | 0.035 | 0.068 | 0.059 | 0.118 | 0.168 | 0.145 | 0.124 | 0.029 | 0.0 | 0.0 |
| 16 | 0.698 | 0.018 | 0.050 | 0.050 | 0.088 | 0.162 | 0.198 | 0.150 | 0.136 | 0.032 | 0.015 | 0.003 |
| 18 | 0.737 | 0.015 | 0.062 | 0.156 | 0.177 | 0.171 | 0.127 | 0.100 | 0.100 | 0.068 | 0.027 | 0.009 |
| 20 | 0.766 | 0.021 | 0.065 | 0.038 | 0.056 | 0.077 | 0.053 | 0.109 | 0.112 | 0.074 | 0.021 | 0.0 |
| 22 | 0.796 | 0.030 | 0.062 | 0.086 | 0.204 | 0.540 | 0.858 | 1.106 | 1.283 | 0.652 | 0.260 | 0.024 |
| 24 | 0.822 | 0.018 | 0.035 | 0.038 | 0.053 | 0.077 | 0.106 | 0.150 | 0.088 | 0.127 | 0.121 | 0.018 |
| 26 | 0.833 | 0.021 | 0.047 | 0.065 | 0.124 | 0.345 | 0.882 | 0.909 | 0.451 | 0.274 | 0.186 | 0.0 |
| 28 | 0.872 | 0.024 | 0.065 | 0.198 | 0.360 | 0.608 | 0.805 | 1.109 | 1.180 | 0.537 | 0.218 | 0.015 |
| 30 | 0.931 | 0.024 | 0.021 | 0.044 | 0.038 | 0.056 | 0.062 | 0.088 | 0.130 | 0.204 | 0.153 | 0.038 |
| 32 | 0.948 | 0.027 | 0.050 | 0.088 | 0.103 | 0.133 | 0.168 | 0.295 | 0.616 | 0.584 | 0.401 | 0.050 |
| 34 | 0.769 | 0.047 | 0.121 | 0.136 | 0.245 | 0.354 | 0.481 | 0.652 | 0.693 | 0.351 | 0.186 | 0.021 |
| 36 | 0.822 | 0.015 | 0.024 | 0.038 | 0.029 | 0.053 | 0.050 | 0.112 | 0.145 | 0.224 | 0.295 | 0.142 |
| 38 | 0.869 | 0.015 | 0.038 | 0.032 | 0.018 | 0.021 | 0.035 | 0.100 | 0.257 | 0.292 | 0.307 | 0.065 |
| 40 | 0.918 | 0.027 | 0.029 | 0.053 | 0.047 | 0.077 | 0.156 | 0.301 | 0.552 | 0.540 | 0.413 | 0.112 |
| 42 | 0.952 | 0.071 | 0.112 | 0.127 | 0.206 | 0.342 | 0.501 | 0.752 | 0.678 | 0.584 | 0.519 | 0.068 |
| 44 | 0.937 | 0.044 | 0.038 | 0.047 | 0.068 | 0.083 | 0.136 | 0.165 | 0.162 | 0.212 | 0.271 | 0.071 |
| 46 | 0.981 | 0.059 | 0.136 | 0.097 | 0.130 | 0.209 | 0.192 | 0.289 | 0.628 | 0.525 | 0.501 | 0.097 |
| 48 | 0.965 | 0.138 | 0.286 | 0.295 | 0.357 | 0.419 | 0.475 | 0.714 | 1.059 | 1.174 | 0.950 | 0.077 |
| 50 | 2.787 | 0.522 | 1.109 | 1.262 | 1.285 | 1.540 | 1.790 | 2.088 | 2.100 | 1.882 | 1.109 | 0.065 |
| 52 | 3.395 | 0.732 | 1.192 | 1.534 | 1.596 | 2.139 | 1.903 | 1.560 | 1.401 | 1.029 | 0.484 | 0.029 |
| 54 | 0.990 | 0.027 | 0.038 | 0.035 | 0.027 | 0.041 | 0.091 | 0.112 | 0.097 | 0.100 | 0.124 | 0.024 |
| 56 | 0.206 | 0.009 | 0.050 | 0.065 | 0.074 | 0.127 | 0.171 | 0.221 | 0.268 | 0.218 | 0.127 | 0.003 |
| 58 | 0.297 | 0.032 | 0.071 | 0.112 | 0.139 | 0.189 | 0.215 | 0.257 | 0.268 | 0.201 | 0.097 | 0.006 |
| 60 | 0.136 | 0.021 | 0.053 | 0.083 | 0.106 | 0.091 | 0.136 | 0.124 | 0.115 | 0.080 | 0.035 | 0.0 |
| 62 | 0.027 | 0.0 | 0.006 | 0.0 | 0.006 | 0.009 | 0.009 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PERCENT | 21.730 | 2.790 | 4.103 | 5.044 | 5.843 | 8.271 | 9.940 | 11.728 | 12.763 | 10.029 | 6.823 | 0.935 |

* N = 28535
MEAN(S) = 40.53
MEAN(P) = 54.33
STD DEV(S) = 13.08
STD DEV(P) = 24.85

MEAN(S X P) = 2204.67
MEAN(S) X MEAN(P) = 2201.64
COVARIANCE(S,P) = 3.03
CORR COEFF(S,P) = 0.009

* EXCLUDES NOTCHING COLUMN FREQUENCY

TRUCK LB 65 TT DIESEL

NORMALIZED SPEED VS % POWER MATRIX - CHANNEL 5
(N = 93626)

| | MEAN | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2.995 | 44.688 | 1.022 | 0.423 | 0.308 | 0.199 | 0.121 | 0.085 | 0.059 | 0.036 | 0.010 | 0.010 |
| 1 | 1.920 | 1.063 | 0.244 | 0.178 | 0.148 | 0.134 | 0.103 | 0.090 | 0.054 | 0.028 | 0.004 | 0.005 |
| 2 | 3.068 | 0.338 | 0.249 | 0.151 | 0.124 | 0.141 | 0.107 | 0.065 | 0.066 | 0.016 | 0.002 | 0.001 |
| 3 | 3.158 | 0.266 | 0.356 | 0.244 | 0.187 | 0.139 | 0.095 | 0.079 | 0.032 | 0.003 | 0.003 | 0.001 |
| 4 | 2.405 | 0.139 | 0.230 | 0.166 | 0.164 | 0.138 | 0.111 | 0.093 | 0.087 | 0.030 | 0.003 | 0.0 |
| 5 | 2.355 | 0.101 | 0.194 | 0.129 | 0.117 | 0.136 | 0.152 | 0.145 | 0.132 | 0.047 | 0.009 | 0.0 |
| 6 | 1.699 | 0.085 | 0.112 | 0.088 | 0.109 | 0.127 | 0.134 | 0.136 | 0.114 | 0.043 | 0.015 | 0.0 |
| 7 | 1.134 | 0.067 | 0.078 | 0.064 | 0.075 | 0.138 | 0.155 | 0.172 | 0.174 | 0.104 | 0.043 | 0.004 |
| 8 | 0.909 | 0.056 | 0.075 | 0.074 | 0.081 | 0.111 | 0.152 | 0.187 | 0.187 | 0.155 | 0.101 | 0.009 |
| 9 | 1.913 | 0.080 | 0.103 | 0.119 | 0.139 | 0.141 | 0.235 | 0.241 | 0.251 | 0.179 | 0.090 | 0.007 |
| 10 | 0.887 | 0.078 | 0.075 | 0.069 | 0.074 | 0.106 | 0.104 | 0.177 | 0.214 | 0.229 | 0.163 | 0.036 |
| 11 | 1.381 | 0.061 | 0.056 | 0.101 | 0.099 | 0.124 | 0.150 | 0.197 | 0.254 | 0.200 | 0.172 | 0.041 |
| 12 | 0.654 | 0.017 | 0.060 | 0.066 | 0.049 | 0.052 | 0.087 | 0.121 | 0.181 | 0.251 | 0.270 | 0.057 |
| 13 | 0.697 | 0.037 | 0.082 | 0.077 | 0.066 | 0.085 | 0.117 | 0.170 | 0.269 | 0.222 | 0.148 | 0.016 |
| 14 | 0.882 | 0.047 | 0.098 | 0.093 | 0.082 | 0.121 | 0.139 | 0.187 | 0.235 | 0.202 | 0.158 | 0.045 |
| 15 | 0.508 | 0.034 | 0.043 | 0.063 | 0.073 | 0.092 | 0.108 | 0.173 | 0.213 | 0.202 | 0.146 | 0.023 |
| 16 | 0.844 | 0.089 | 0.182 | 0.173 | 0.175 | 0.175 | 0.187 | 0.206 | 0.228 | 0.135 | 0.042 | 0.002 |
| 17 | 1.267 | 0.282 | 0.383 | 0.367 | 0.232 | 0.232 | 0.217 | 0.181 | 0.115 | 0.048 | 0.019 | 0.004 |
| 18 | 0.298 | 0.041 | 0.058 | 0.032 | 0.015 | 0.023 | 0.042 | 0.038 | 0.083 | 0.070 | 0.052 | 0.011 |
| 19 | 0.165 | 0.022 | 0.042 | 0.032 | 0.036 | 0.041 | 0.050 | 0.062 | 0.077 | 0.049 | 0.037 | 0.001 |
| 20 | 0.161 | 0.035 | 0.060 | 0.092 | 0.038 | 0.031 | 0.052 | 0.045 | 0.034 | 0.029 | 0.019 | 0.0 |
| 21 | 0.084 | 0.018 | 0.035 | 0.094 | 0.056 | 0.042 | 0.031 | 0.020 | 0.019 | 0.017 | 0.003 | 0.002 |
| 22 | 0.009 | 0.0 | 0.0 | 0.004 | 0.0 | 0.0 | 0.0 | 0.0 | 0.001 | 0.012 | 0.013 | 0.001 |
| 23 | 0.021 | 0.0 | 0.002 | 0.0 | 0.0 | 0.004 | 0.002 | 0.003 | 0.011 | 0.015 | 0.0 | 0.0 |
| 24 | 0.009 | 0.0 | 0.004 | 0.006 | 0.003 | 0.010 | 0.007 | 0.005 | 0.010 | 0.006 | 0.0 | 0.0 |
| 25 | 0.056 | 0.011 | 0.027 | 0.029 | 0.061 | 0.066 | 0.091 | 0.052 | 0.034 | 0.002 | 0.0 | 0.0 |
| 26 | 0.016 | 0.005 | 0.012 | 0.009 | 0.014 | 0.010 | 0.004 | 0.012 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 33 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 27.906 | 47.590 | 3.920 | 2.882 | 2.527 | 2.618 | 2.750 | 2.943 | 3.134 | 2.329 | 1.524 | 0.277 |

* N = 67373
MEAN(S) = 7.18
MEAN(P) = 16.03
STD DEV(S) = 12.05
STD DEV(P) = 20.84

MEAN(S X P) = 341.67
MEAN(S) X MEAN(P) = 115.08
COVARIANCE(S,P) = 226.59
CORR COEFF(S,P) = 0.700

* EXCLUDES MISSING COLUMN FREQUENCY

[illegible] 77 DIESEL

NORMALIZED SPEED VS % POWER MATRIX - CHANNEL 5
(N = 127528)

| | MOTOR | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2.199 | 32.925 | 0.750 | 0.313 | 0.228 | 0.152 | 0.089 | 0.064 | 0.043 | 0.027 | 0.007 | 0.007 |
| 2 | 0.760 | 0.823 | 0.187 | 0.136 | 0.111 | 0.100 | 0.076 | 0.068 | 0.043 | 0.021 | 0.003 | 0.004 |
| 4 | 2.267 | 0.256 | 0.185 | 0.118 | 0.100 | 0.106 | 0.081 | 0.049 | 0.050 | 0.012 | 0.002 | 0.001 |
| 6 | 2.380 | 0.293 | 0.272 | 0.186 | 0.143 | 0.110 | 0.072 | 0.059 | 0.024 | 0.002 | 0.002 | 0.001 |
| 8 | 1.930 | 0.110 | 0.178 | 0.136 | 0.131 | 0.111 | 0.089 | 0.072 | 0.068 | 0.022 | 0.002 | 0.0 |
| 10 | 1.872 | 0.088 | 0.168 | 0.102 | 0.096 | 0.120 | 0.124 | 0.118 | 0.107 | 0.035 | 0.006 | 0.0 |
| 12 | 1.469 | 0.082 | 0.115 | 0.100 | 0.107 | 0.125 | 0.118 | 0.111 | 0.096 | 0.040 | 0.012 | 0.0 |
| 14 | 0.951 | 0.042 | 0.067 | 0.065 | 0.071 | 0.133 | 0.158 | 0.165 | 0.161 | 0.084 | 0.031 | 0.003 |
| 16 | 0.899 | 0.045 | 0.068 | 0.067 | 0.083 | 0.125 | 0.164 | 0.177 | 0.173 | 0.122 | 0.078 | 0.007 |
| 18 | 1.106 | 0.063 | 0.092 | 0.129 | 0.149 | 0.149 | 0.206 | 0.204 | 0.211 | 0.150 | 0.073 | 0.008 |
| 20 | 0.699 | 0.026 | 0.072 | 0.061 | 0.069 | 0.098 | 0.090 | 0.159 | 0.187 | 0.187 | 0.125 | 0.027 |
| 22 | 0.997 | 0.055 | 0.087 | 0.097 | 0.127 | 0.234 | 0.338 | 0.438 | 0.528 | 0.320 | 0.195 | 0.036 |
| 24 | 0.562 | 0.017 | 0.053 | 0.059 | 0.050 | 0.059 | 0.092 | 0.129 | 0.156 | 0.218 | 0.231 | 0.046 |
| 26 | 0.601 | 0.033 | 0.073 | 0.074 | 0.082 | 0.154 | 0.321 | 0.366 | 0.318 | 0.236 | 0.158 | 0.012 |
| 28 | 0.761 | 0.041 | 0.089 | 0.121 | 0.157 | 0.250 | 0.316 | 0.432 | 0.486 | 0.291 | 0.174 | 0.037 |
| 30 | 0.734 | 0.031 | 0.047 | 0.058 | 0.064 | 0.082 | 0.096 | 0.151 | 0.191 | 0.202 | 0.148 | 0.027 |
| 32 | 1.129 | 0.220 | 0.314 | 0.261 | 0.235 | 0.264 | 0.287 | 0.306 | 0.269 | 0.254 | 0.137 | 0.015 |
| 34 | 0.324 | 0.034 | 0.049 | 0.034 | 0.019 | 0.031 | 0.044 | 0.058 | 0.100 | 0.111 | 0.117 | 0.045 |
| 36 | 0.205 | 0.020 | 0.041 | 0.032 | 0.031 | 0.035 | 0.046 | 0.072 | 0.125 | 0.114 | 0.109 | 0.018 |
| 38 | 0.227 | 0.033 | 0.052 | 0.082 | 0.041 | 0.043 | 0.080 | 0.113 | 0.172 | 0.165 | 0.124 | 0.030 |
| 40 | 0.268 | 0.032 | 0.056 | 0.103 | 0.096 | 0.122 | 0.156 | 0.215 | 0.194 | 0.168 | 0.140 | 0.020 |
| 42 | 0.149 | 0.012 | 0.010 | 0.016 | 0.018 | 0.022 | 0.036 | 0.044 | 0.044 | 0.065 | 0.082 | 0.020 |
| 44 | 0.149 | 0.016 | 0.030 | 0.026 | 0.035 | 0.059 | 0.053 | 0.079 | 0.175 | 0.151 | 0.133 | 0.026 |
| 46 | 0.263 | 0.036 | 0.079 | 0.083 | 0.097 | 0.118 | 0.132 | 0.194 | 0.289 | 0.317 | 0.252 | 0.020 |
| 48 | 1.042 | 0.147 | 0.314 | 0.357 | 0.387 | 0.458 | 0.543 | 0.594 | 0.583 | 0.502 | 0.295 | 0.017 |
| 50 | 1.446 | 0.198 | 0.325 | 0.414 | 0.434 | 0.576 | 0.509 | 0.423 | 0.372 | 0.274 | 0.129 | 0.008 |
| 52 | 0.130 | 0.007 | 0.010 | 0.009 | 0.007 | 0.011 | 0.024 | 0.030 | 0.026 | 0.027 | 0.033 | 0.006 |
| 54 | 0.055 | 0.002 | 0.013 | 0.017 | 0.020 | 0.034 | 0.045 | 0.059 | 0.071 | 0.058 | 0.034 | 0.001 |
| 56 | 0.068 | 0.009 | 0.019 | 0.030 | 0.037 | 0.050 | 0.057 | 0.068 | 0.071 | 0.053 | 0.026 | 0.002 |
| 58 | 0.036 | 0.005 | 0.014 | 0.022 | 0.028 | 0.024 | 0.036 | 0.033 | 0.031 | 0.021 | 0.009 | 0.0 |
| 60 | 0.007 | 0.0 | 0.002 | 0.0 | 0.002 | 0.002 | 0.002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTALS | 25.971 | 35.681 | 3.969 | 3.456 | 3.409 | 4.121 | 4.662 | 5.278 | 5.694 | 4.376 | 2.933 | 0.452 |

* N = 94608
MEAN(S) = 10.55
MEAN(P) = 28.79
STD DEV(S) = 19.42
STD DEV(P) = 31.43

MEAN(S X P) = 865.30
MEAN(S) X MEAN(P) = 443.49
COVARIANCE(S,P) = 421.81
CORR COEFF(S,P) = 0.691

* EXCLUDES MOTORING COLUMN FREQUENCY

TRUCK LB 45 TT DIESEL

## TRAFFIC DENSITY VS ROAD TYPE
(N = 127528)

| | UNKNOWN | FREEWAY | ARTERIAL | LOCAL | TOTALS |
|---|---|---|---|---|---|
| UNKNOWN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LIGHT | 0.0 | 9.62 | 12.94 | 31.98 | 54.54 |
| MEDIUM | 0.0 | 13.10 | 14.14 | 13.99 | 41.23 |
| HEAVY | 0.0 | 3.86 | 0.0 | 0.36 | 4.23 |
| TOTALS | 0.0 | 26.58 | 27.08 | 46.34 | 100.00 |

## THROTTLE POSITION VS POWER STATE

| | FREEWAY (N = 33902) | | NON-FREEWAY (N = 93626) | | COMBINED (N = 127528) | |
|---|---|---|---|---|---|---|
| | MOTORING | NON-MOTORING | MOTORING | NON-MOTORING | MOTORING | NON-MOTORING |
| CLOSED | 1.25 | 8.04 | 3.78 | 47.31 | 3.11 | 36.88 |
| OPEN | 20.48 | 70.23 | 23.72 | 25.18 | 22.86 | 37.15 |

SUMMARY STATISTICS FOR TRUCK LA 45 TT DIESEL

(RECORD COUNT = 127528, OPERATING TIME = 30.61 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 33902 | 93626 | 127528 |
| MEAN | 55.01 | 40.45 | 54.96 |
| MEDIAN | 58.75 | 17.38 | 77.54 |
| STD DEV | 13.64 | 42.83 | 44.46 |
| % ACCEL | 7.86 | 13.76 | 12.18 |
| % CRUISE | 86.54 | 29.61 | 44.80 |
| % DECEL | 4.83 | 8.45 | 7.49 |
| ** % IDLE | 0.77 | 48.17 | 35.53 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 26426 | 67457 | 93883 |
| TOTAL N | 33536 | 92194 | 125730 |
| MEAN | 54.38 | 15.94 | 26.76 |
| MEDIAN | 57.76 | 3.79 | 8.07 |
| STD DEV | 24.84 | 26.83 | 31.46 |
| % ACCEL | 21.38 | 10.75 | 13.58 |
| % CRUISE | 36.07 | 53.23 | 48.65 |
| % DECEL | 24.67 | 14.03 | 16.87 |
| *** % MOTOR | 17.88 | 21.99 | 20.89 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NONFREEWAY | COMBINED |
| N | 33536 | 92194 | 125730 |
| MEAN | 40.33 | 8.73 | 17.16 |
| MEDIAN | 47.04 | 0.99 | 9.75 |
| STD DEV | 18.99 | 12.03 | 18.72 |
| % IDLE | 0.34 | 48.85 | 35.91 |
| % ACCEL | 12.52 | 12.04 | 12.17 |
| % CRUISE | 77.48 | 30.93 | 43.34 |
| % DECEL | 9.57 | 7.18 | 7.82 |
| % IDLE | 0.43 | 49.85 | 36.67 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NONFREEWAY | COMBINED |
| ** N | 26535 | 67873 | 94408 |
| E(EXP) | 5233.23 | 1305.72 | 2409.62 |
| E(E)XE(P) | 5209.30 | 458.20 | 1272.75 |
| COV(E,P) | 23.92 | 847.52 | 1136.88 |
| R(E,P) | 0.076 | 0.760 | 0.771 |
| ** N | 33902 | 93626 | 127528 |
| E(SXE) | 3888.47 | 773.83 | 1601.83 |
| E(S)XE(E) | 3812.76 | 357.28 | 943.00 |
| COV(S,E) | 75.72 | 416.55 | 658.83 |
| R(S,E) | 0.408 | 0.808 | 0.795 |
| ** N | 26535 | 67873 | 94408 |
| E(SXP) | 2204.67 | 341.67 | 865.30 |
| E(S)XE(P) | 2201.64 | 115.08 | 443.49 |
| COV(S,P) | 3.03 | 226.59 | 421.81 |
| R(S,P) | 0.009 | 0.700 | 0.691 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** THE IDLE PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE
*** THE MOTORING PERCENTAGE IS HERE NOT INCLUDED IN THE CRUISE PERCENTAGE

Appendix E

# SUMMARY STATISTICS BY VEHICLE

SUMMARY STATISTICS FOR LA TRUCK 5: 2A GAS

(RECORD COUNT = 29280, OPERATING TIME = 7.03 HRS)

---------- RPM ----------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3059. | 26221. | 29280. |
| MEAN | 62.79 | 18.18 | 22.84 |
| MEDIAN | 67.41 | 16.85 | 19.81 |
| STD DEV | 15.66 | 16.07 | 21.05 |
| % ACCEL | 3.83 | 10.62 | 9.91 |
| % CRUISE | 90.94 | 53.02 | 56.99 |
| % DECEL | 4.02 | 9.57 | 8.99 |
| % IDLE | 1.21 | 26.78 | 24.11 |

---------- POWER ----------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 2892. | 22033. | 24925. |
| TOTAL N | 3056. | 26128. | 29184. |
| MEAN | 61.72 | 32.12 | 35.55 |
| MEDIAN | 63.29 | 27.07 | 31.61 |
| STD DEV | 22.21 | 29.46 | 30.23 |
| % ACCEL | 12.89 | 17.39 | 16.92 |
| % CRUISE | 68.46 | 51.53 | 53.30 |
| % DECEL | 13.94 | 20.08 | 19.44 |
| % MOTOR | 4.71 | 11.00 | 10.34 |

---------- SPEED ----------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3056. | 26128. | 29184. |
| MEAN | 49.36 | 18.46 | 21.69 |
| MEDIAN | 52.75 | 18.24 | 21.36 |
| STD DEV | 10.85 | 14.00 | 16.65 |
| % ZERO | 0.59 | 12.83 | 11.55 |
| % ACCEL | 9.26 | 26.18 | 24.41 |
| % CRUISE | 81.45 | 39.68 | 44.05 |
| % DECEL | 8.70 | 20.80 | 19.53 |
| % IDLE | 0.59 | 13.34 | 12.01 |

----- INTERACTION STATISTICS ------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 2895. | 22116. | 25011. |
| E(EXP) | 4065.01 | 821.85 | 1197.23 |
| E(E)XE(P) | 3949.49 | 593.66 | 843.83 |
| COV(E,P) | 115.56 | 228.20 | 353.41 |
| R(E,P) | 0.351 | 0.467 | 0.533 |
| ** N | 3059. | 26221. | 29280. |
| E(SXE) | 3258.90 | 511.22 | 798.28 |
| E(S)XE(E) | 3098.35 | 333.88 | 493.44 |
| COV(S,E) | 160.60 | 177.34 | 304.85 |
| R(S,E) | 0.930 | 0.779 | 0.863 |
| ** N | 2895. | 2216. | 25011. |
| E(SXP) | 3177.14 | 810.31 | 1084.27 |
| E(S)XE(P) | 3090.89 | 580.31 | 773.71 |
| COV(S,P) | 86.28 | 230.02 | 310.57 |
| R(S,P) | 0.374 | 0.536 | 0.589 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY



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SUMMARY STATISTICS FOR LA TRUCK 7: 2A GAS

(RECORD COUNT = 71165, OPERATING TIME = 17.08 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3411. | 67754. | 71165. |
| MEAN | 55.84 | 15.04 | 17.00 |
| MEDIAN | 60.15 | 0.91 | 0.98 |
| STD DEV | 27.73 | 20.19 | 22.38 |
| % ACCEL | 4.63 | 9.02 | 8.81 |
| % CRUISE | 74.63 | 29.62 | 31.78 |
| % DECEL | 4.96 | 8.08 | 7.93 |
| % IDLE | 15.78 | 53.27 | 51.47 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 2978. | 53524. | 56502. |
| TOTAL N | 3410. | 67700. | 71110. |
| MEAN | 33.37 | 14.74 | 15.72 |
| MEDIAN | 31.28 | 3.81 | 3.96 |
| STD DEV | 26.64 | 26.24 | 26.39 |
| % ACCEL | 14.75 | 11.19 | 11.36 |
| % CRUISE | 59.35 | 58.96 | 58.98 |
| % DECEL | 15.10 | 13.12 | 13.21 |
| % MOTOR | 10.79 | 16.73 | 16.45 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3410. | 67700. | 71110. |
| MEAN | 42.91 | 11.08 | 12.61 |
| MEDIAN | 51.79 | 0.99 | 2.98 |
| STD DEV | 20.83 | 14.22 | 16.11 |
| % ZERO | 14.66 | 48.25 | 46.64 |
| % ACCEL | 11.64 | 16.32 | 16.10 |
| % CRUISE | 62.61 | 19.54 | 21.61 |
| % DECEL | 11.03 | 14.87 | 14.69 |
| % IDLE | 14.72 | 49.26 | 47.61 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 2979. | 53568. | 56547. |
| E(EXP) | 2283.67 | 521.15 | 614.00 |
| E(E)XE(P) | 1887.15 | 181.02 | 229.72 |
| COV(E,P) | 396.65 | 340.14 | 384.29 |
| R(E,P) | 0.521 | 0.648 | 0.634 |
| ** N | 3411. | 67754. | 71165. |
| E(SXE) | 2952.93 | 408.49 | 530.93 |
| E(S)XE(E) | 2399.88 | 166.73 | 214.39 |
| COV(S,E) | 553.22 | 241.77 | 316.55 |
| R(S,E) | 0.970 | 0.837 | 0.875 |
| ** N | 2979. | 53568. | 56547. |
| E(SXP) | 1714.86 | 342.24 | 414.55 |
| E(S)XE(P) | 1440.84 | 131.23 | 168.34 |
| COV(S,P) | 274.11 | 211.02 | 246.21 |
| R(S,P) | 0.475 | 0.579 | 0.568 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 10: 2A GAS

(RECORD COUNT = 58227, OPERATING TIME = 13.97 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 22487. | 35740. | 58227. |
| MEAN | 52.57 | 18.16 | 31.45 |
| MEDIAN | 57.49 | 10.62 | 31.08 |
| STD DEV | 18.23 | 21.04 | 26.09 |
| % ACCEL | 4.35 | 7.63 | 6.37 |
| % CRUISE | 86.99 | 41.66 | 59.05 |
| % DECEL | 4.08 | 5.98 | 5.25 |
| % IDLE | 4.58 | 44.74 | 29.33 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 18714. | 28909. | 47623. |
| TOTAL N | 22149. | 35580. | 57729. |
| MEAN | 45.63 | 22.94 | 31.66 |
| MEDIAN | 43.81 | 4.89 | 26.74 |
| STD DEV | 27.21 | 29.71 | 30.81 |
| % ACCEL | 16.49 | 13.90 | 14.90 |
| % CRUISE | 52.35 | 54.20 | 53.49 |
| % DECEL | 18.73 | 16.96 | 17.64 |
| % MOTOR | 12.42 | 14.94 | 13.97 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 22149. | 35580. | 57729. |
| MEAN | 48.21 | 18.63 | 29.98 |
| MEDIAN | 52.55 | 16.06 | 33.47 |
| STD DEV | 14.49 | 17.78 | 21.96 |
| % ZERO | 1.71 | 30.55 | 19.48 |
| % ACCEL | 29.86 | 22.36 | 25.24 |
| % CRUISE | 38.41 | 25.78 | 30.63 |
| % DECEL | 29.93 | 20.78 | 24.29 |
| % IDLE | 1.80 | 31.07 | 19.84 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 19025. | 29038. | 48063. |
| E(EXP) | 2556.63 | 788.51 | 1488.40 |
| E(E)XE(P) | 2464.37 | 375.19 | 998.10 |
| COV(E,P) | 92.27 | 413.34 | 490.30 |
| R(E,P) | 0.192 | 0.649 | 0.585 |
| ** N | 22487. | 35740. | 58227. |
| E(SXE) | 2752.87 | 641.22 | 1456.73 |
| E(S)XE(E) | 2533.06 | 339.06 | 945.61 |
| COV(S,E) | 219.82 | 302.16 | 511.13 |
| R(S,E) | 0.826 | 0.803 | 0.889 |
| ** N | 19025. | 29038. | 48063. |
| E(SXP) | 2355.32 | 722.39 | 1308.76 |
| E(S)XE(P) | 2252.33 | 376.17 | 940.16 |
| COV(S,P) | 103.00 | 346.22 | 428.61 |
| R(S,P) | 0.266 | 0.643 | 0.599 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

MARY STATISTICS FOR LA TRUCK 11: 2A GAS

(RECORD COUNT = 94551, OPERATING TIME = 22.69 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 58770. | 35781. | 94551. |
| MEAN | 64.13 | 35.41 | 53.26 |
| MEDIAN | 68.63 | 37.57 | 64.67 |
| STD DEV | 15.40 | 25.40 | 24.20 |
| % ACCEL | 3.31 | 13.50 | 7.15 |
| % CRUISE | 91.63 | 58.22 | 79.03 |
| % DECEL | 3.48 | 12.36 | 6.83 |
| % IDLE | 1.58 | 15.93 | 6.99 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 57196. | 34306. | 91502. |
| TOTAL N | 58574. | 35459. | 94033. |
| MEAN | 66.05 | 43.59 | 57.63 |
| MEDIAN | 69.19 | 30.75 | 63.25 |
| STD DEV | 25.41 | 37.39 | 32.34 |
| % ACCEL | 16.06 | 18.56 | 17.00 |
| % CRUISE | 66.61 | 59.82 | 64.05 |
| % DECEL | 15.51 | 19.41 | 16.98 |
| % MOTOR | 1.82 | 2.21 | 1.97 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 58574. | 35459. | 94033. |
| MEAN | 51.55 | 22.93 | 40.76 |
| MEDIAN | 56.30 | 25.29 | 51.29 |
| STD DEV | 13.67 | 17.25 | 20.52 |
| % ZERO | 1.84 | 17.97 | 7.92 |
| % ACCEL | 9.58 | 25.69 | 15.66 |
| % CRUISE | 81.14 | 35.20 | 63.81 |
| % DECEL | 7.35 | 20.21 | 12.20 |
| % IDLE | 1.93 | 18.89 | 8.33 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 57383. | 34619. | 92002. |
| E(SXP) | 4443.07 | 2126.12 | 3571.22 |
| E(S)XE(P) | 4264.35 | 1544.14 | 3067.61 |
| COV(S,P) | 178.72 | 582.00 | 483.62 |
| R(S,P) | 0.466 | 0.605 | 0.614 |
| ** N | 58770. | 35781. | 94551. |
| E(SXE) | 3487.84 | 1161.23 | 2607.36 |
| E(S)XE(E) | 3299.26 | 815.54 | 2167.78 |
| COV(S,E) | 188.58 | 345.70 | 439.60 |
| R(S,E) | 0.888 | 0.787 | 0.885 |
| ** N | 57383. | 34619. | 92002. |
| E(SXP) | 3567.17 | 1258.12 | 2698.31 |
| E(S)XE(P) | 3423.10 | 989.65 | 2354.59 |
| COV(S,P) | 144.07 | 268.48 | 343.72 |
| R(S,P) | 0.418 | 0.414 | 0.513 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 13: 24 GAS

(RECORD COUNT = 64021, OPERATING TIME = 15.37 HRS)

---------- RPM ----------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 722. | 63299. | 64021. |
| MEAN | 58.80 | 12.93 | 13.02 |
| MEDIAN | 68.44 | 6.71 | 6.92 |
| STD DEV | 21.65 | 15.84 | 16.65 |
| % ACCEL | 4.43 | 5.64 | 5.62 |
| % CRUISE | 87.26 | 44.62 | 45.10 |
| % DECEL | 3.05 | 5.27 | 5.25 |
| % IDLE | 5.26 | 44.47 | 44.03 |

---------- POWER ----------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 634. | 58146. | 58830. |
| TOTAL N | 722. | 63252. | 63974. |
| MEAN | 61.84 | 19.60 | 20.09 |
| MEDIAN | 65.00 | 3.96 | 4.00 |
| STD DEV | 22.14 | 30.77 | 31.01 |
| % ACCEL | 11.63 | 8.22 | 8.26 |
| % CRUISE | 71.61 | 74.36 | 74.33 |
| % DECEL | 12.19 | 11.48 | 11.49 |
| % MOTOR | 4.57 | 5.94 | 5.92 |

---------- SPEED ----------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 722. | 63252. | 63974. |
| MEAN | 38.10 | 9.13 | 9.46 |
| MEDIAN | 43.43 | 0.92 | 0.93 |
| STD DEV | 12.16 | 12.11 | 12.49 |
| % ZERO | 5.12 | 53.38 | 52.83 |
| % ACCEL | 14.40 | 15.45 | 15.44 |
| % CRUISE | 73.27 | 19.68 | 20.29 |
| % DECEL | 7.20 | 11.40 | 11.36 |
| % IDLE | 5.12 | 53.46 | 52.92 |

----- INTERACTION STATISTICS ------

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 684. | 58189. | 58873. |
| E(EXP) | 3843.13 | 522.15 | 560.73 |
| E(E)XE(P) | 3692.62 | 231.53 | 248.50 |
| COV(E,P) | 150.72 | 290.63 | 312.24 |
| R(E,P) | 0.319 | 0.598 | 0.604 |
| ** N | 722. | 63299. | 64021. |
| E(SXE) | 2480.83 | 288.54 | 313.26 |
| E(S)XE(E) | 2224.93 | 116.64 | 125.68 |
| COV(S,E) | 256.25 | 171.90 | 187.58 |
| R(S,E) | 0.963 | 0.896 | 0.902 |
| ** N | 684. | 58189. | 58873. |
| E(SXP) | 2486.73 | 416.15 | 440.20 |
| E(S)XE(P) | 2378.75 | 163.95 | 175.08 |
| COV(S,P) | 108.13 | 252.20 | 265.13 |
| R(S,P) | 0.401 | 0.682 | 0.687 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 14: 2A GAS

(RECORD COUNT = 65078, OPERATING TIME = 15.62 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 33795. | 31283. | 65078. |
| MEAN | 47.54 | 19.76 | 34.19 |
| MEDIAN | 50.49 | 18.42 | 40.93 |
| STD DEV | 13.34 | 18.64 | 21.26 |
| % ACCEL | 3.22 | 10.74 | 6.83 |
| % CRUISE | 90.62 | 47.16 | 69.74 |
| % DECEL | 3.16 | 9.39 | 6.15 |
| % IDLE | 3.00 | 32.71 | 17.27 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 33604. | 29960. | 63564. |
| TOTAL N | 33768. | 31209. | 64977. |
| MEAN | 75.36 | 42.52 | 59.38 |
| MEDIAN | 88.91 | 26.54 | 78.02 |
| STD DEV | 31.02 | 39.16 | 38.73 |
| % ACCEL | 15.54 | 16.20 | 15.86 |
| % CRUISE | 63.95 | 60.00 | 62.05 |
| % DECEL | 20.20 | 21.48 | 20.82 |
| % MOTOR | 0.31 | 2.32 | 1.27 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 33768. | 31209. | 64977. |
| MEAN | 47.80 | 18.86 | 33.90 |
| MEDIAN | 50.75 | 20.24 | 38.56 |
| STD DEV | 10.61 | 14.76 | 19.29 |
| % ZERO | 0.84 | 21.89 | 10.95 |
| % ACCEL | 14.66 | 26.95 | 20.56 |
| % CRUISE | 73.19 | 29.27 | 52.10 |
| % DECEL | 11.26 | 21.34 | 16.10 |
| % IDLE | 0.89 | 22.44 | 11.24 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 33631. | 30026. | 63657. |
| E(EXP) | 3748.65 | 1263.45 | 2575.42 |
| E(E)XE(P) | 3597.78 | 874.33 | 2090.68 |
| COV(E,P) | 150.87 | 389.13 | 485.75 |
| R(E,P) | 0.375 | 0.535 | 0.601 |
| ** N | 33795. | 31283. | 65078. |
| E(SXE) | 2390.77 | 563.27 | 1514.69 |
| E(S)XE(E) | 2269.37 | 371.47 | 1156.36 |
| COV(S,E) | 121.40 | 196.81 | 358.33 |
| R(S,E) | 0.838 | 0.708 | 0.866 |
| ** N | 33631. | 30026. | 63657. |
| E(SXP) | 3721.27 | 1103.03 | 2486.29 |
| E(S)XE(P) | 3613.02 | 820.60 | 2061.37 |
| COV(S,P) | 108.26 | 282.44 | 424.93 |
| R(S,P) | 0.337 | 0.486 | 0.574 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 17: 2A CAS

(RECORD COUNT = 27254, OPERATING TIME = 6.54 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 9912. | 17342. | 27254. |
| MEAN | 78.12 | 43.94 | 56.37 |
| MEDIAN | 81.90 | 48.36 | 66.44 |
| STD DEV | 17.15 | 34.94 | 33.98 |
| % ACCEL | 5.18 | 17.28 | 12.66 |
| % CRUISE | 86.96 | 44.46 | 60.65 |
| % DECEL | 5.00 | 14.51 | 11.05 |
| % IDLE | 0.87 | 23.75 | 15.42 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 9012. | 12865. | 21877. |
| TOTAL N | 9889. | 17287. | 27176. |
| MEAN | 84.69 | 53.66 | 66.45 |
| MEDIAN | 97.17 | 61.52 | 90.89 |
| STD DEV | 26.79 | 43.09 | 40.26 |
| % ACCEL | 11.50 | 16.06 | 14.40 |
| % CRUISE | 68.34 | 46.09 | 54.19 |
| % DECEL | 13.27 | 18.54 | 16.62 |
| % MOTOR | 6.90 | 19.31 | 14.79 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 9889. | 17287. | 27176. |
| MEAN | 37.72 | 15.72 | 23.73 |
| MEDIAN | 41.28 | 14.63 | 25.52 |
| STD DEV | 9.73 | 12.48 | 15.67 |
| % ZERO | 0.07 | 16.72 | 10.66 |
| % ACCEL | 6.62 | 23.87 | 17.60 |
| % CRUISE | 85.64 | 39.49 | 56.28 |
| % DECEL | 7.63 | 19.78 | 15.36 |
| % IDLE | 0.10 | 16.85 | 10.76 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 9029. | 12900. | 21929. |
| E(EXP) | 6929.55 | 3615.08 | 4979.76 |
| E(E)XE(P) | 6755.52 | 2419.72 | 3944.16 |
| COV(E,P) | 174.05 | 1195.45 | 1035.65 |
| R(E,P) | 0.420 | 0.751 | 0.745 |
| ** N | 9912. | 17342. | 27254. |
| E(SXE) | 3066.72 | 1025.79 | 1766.05 |
| E(S)XE(E) | 2947.12 | 689.80 | 1336.53 |
| COV(S,E) | 119.61 | 336.01 | 431.53 |
| R(S,E) | 0.705 | 0.769 | 0.808 |
| ** N | 9029. | 12900. | 21929. |
| E(SXP) | 3390.84 | 1189.68 | 2095.98 |
| E(S)XE(P) | 3276.30 | 616.02 | 1652.26 |
| COV(S,P) | 114.56 | 373.69 | 443.74 |
| R(S,P) | 0.472 | 0.671 | 0.676 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 19: 2A GAS

(RECORD COUNT = 52357, OPERATING TIME = 12.57 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 25337. | 27020. | 52357. |
| MEAN | 51.51 | 33.89 | 42.42 |
| MEDIAN | 53.87 | 33.20 | 46.16 |
| STD DEV | 15.65 | 19.65 | 19.86 |
| % ACCEL | 4.04 | 12.12 | 8.21 |
| % CRUISE | 90.85 | 69.67 | 79.93 |
| % DECEL | 3.92 | 11.28 | 7.72 |
| % IDLE | 1.20 | 6.93 | 4.15 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 23188. | 22575. | 45763. |
| TOTAL N | 25311. | 26949. | 52260. |
| MEAN | 57.64 | 29.00 | 43.51 |
| MEDIAN | 60.79 | 17.12 | 39.76 |
| STD DEV | 32.28 | 29.18 | 33.96 |
| % ACCEL | 11.66 | 15.79 | 13.79 |
| % CRUISE | 68.95 | 53.82 | 61.15 |
| % DECEL | 12.68 | 17.75 | 15.29 |
| % MOTOR | 6.71 | 12.64 | 9.77 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 25311. | 26949. | 52260. |
| MEAN | 27.38 | 10.55 | 18.70 |
| MEDIAN | 36.14 | 9.02 | 17.24 |
| STD DEV | 17.50 | 9.72 | 16.37 |
| % ZERO | 23.62 | 28.27 | 26.02 |
| % ACCEL | 4.67 | 17.27 | 11.17 |
| % CRUISE | 66.16 | 37.70 | 51.48 |
| % DECEL | 5.51 | 16.49 | 11.17 |
| % IDLE | 23.66 | 28.53 | 26.17 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 23211. | 22639. | 45850. |
| E(EXP) | 3122.14 | 1163.68 | 2150.06 |
| E(E)XE(P) | 2966.07 | 956.76 | 1841.71 |
| COV(E,P) | 146.07 | 206.94 | 308.35 |
| R(E,P) | 0.288 | 0.362 | 0.455 |
| ** N | 25337. | 27020. | 52357. |
| E(SXE) | 1516.27 | 460.32 | 971.32 |
| E(S)XE(E) | 1410.17 | 356.83 | 792.41 |
| COV(S,E) | 106.11 | 103.50 | 178.91 |
| R(S,E) | 0.380 | 0.539 | 0.545 |
| ** N | 23211. | 22639. | 45850. |
| E(SXP) | 1698.90 | 414.95 | 1064.93 |
| E(S)XE(P) | 1588.65 | 301.95 | 830.57 |
| COV(S,P) | 110.25 | 113.00 | 234.36 |
| R(S,P) | 0.194 | 0.394 | 0.413 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 21: 2A GAS

(RECORD COUNT = 52075, OPERATING TIME = 12.50 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 17497. | 34578. | 52075. |
| MEAN | 54.28 | 20.84 | 32.07 |
| MEDIAN | 59.54 | 17.08 | 33.26 |
| STD DEV | 16.91 | 21.17 | 25.36 |
| % ACCEL | 3.77 | 11.93 | 9.19 |
| % CRUISE | 88.93 | 43.20 | 58.58 |
| % DECEL | 3.72 | 10.57 | 8.27 |
| % IDLE | 3.59 | 34.29 | 23.96 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 16135. | 28029. | 44164. |
| TOTAL N | 17492. | 34508. | 52000. |
| MEAN | 60.13 | 32.65 | 42.09 |
| MEDIAN | 62.99 | 21.45 | 42.37 |
| STD DEV | 27.68 | 34.76 | 34.95 |
| % ACCEL | 23.51 | 17.55 | 19.55 |
| % CRUISE | 42.94 | 47.55 | 46.00 |
| % DECEL | 27.97 | 21.02 | 23.36 |
| % MOTOR | 5.57 | 13.88 | 11.08 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 17492. | 34508. | 52000. |
| MEAN | 42.00 | 17.19 | 25.53 |
| MEDIAN | 45.97 | 16.96 | 26.26 |
| STD DEV | 11.08 | 13.55 | 17.34 |
| % ZERO | 0.59 | 17.70 | 11.95 |
| % ACCEL | 6.70 | 21.89 | 16.78 |
| % CRUISE | 85.85 | 39.40 | 55.02 |
| % DECEL | 6.70 | 19.27 | 15.04 |
| % IDLE | 0.75 | 19.44 | 13.16 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 16140. | 28080. | 44220. |
| E(EXP) | 3468.03 | 1062.71 | 1940.63 |
| E(E)XE(P) | 3331.22 | 629.94 | 1385.75 |
| COV(E,P) | 136.82 | 432.79 | 554.89 |
| R(E,P) | 0.308 | 0.578 | 0.604 |
| ** N | 17497. | 34578. | 52075. |
| E(SXE) | 2427.76 | 572.56 | 1195.90 |
| E(S)XE(E) | 2269.47 | 357.67 | 816.09 |
| COV(S,E) | 158.31 | 214.90 | 379.82 |
| R(S,E) | 0.843 | 0.744 | 0.863 |
| ** N | 16140. | 28080. | 44220. |
| E(SXP) | 2673.74 | 811.95 | 1491.49 |
| E(S)XE(P) | 2569.18 | 522.94 | 1099.57 |
| COV(S,P) | 104.56 | 289.02 | 391.92 |
| R(S,P) | 0.359 | 0.592 | 0.616 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 24: 2A GAS

(RECORD COUNT = 43360, OPERATING TIME = 10.41 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 12063. | 31297. | 43360. |
| MEAN | 49.11 | 31.28 | 36.24 |
| MEDIAN | 54.68 | 31.97 | 41.74 |
| STD DEV | 17.50 | 25.91 | 25.17 |
| % ACCEL | 4.63 | 13.77 | 11.22 |
| % CRUISE | 85.30 | 49.14 | 59.20 |
| % DECEL | 4.46 | 11.18 | 9.31 |
| % IDLE | 5.62 | 25.91 | 20.26 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 10964. | 26599. | 37563. |
| TOTAL N | 12019. | 31150. | 43169. |
| MEAN | 64.62 | 40.04 | 47.11 |
| MEDIAN | 71.62 | 37.16 | 49.28 |
| STD DEV | 28.46 | 34.74 | 34.82 |
| % ACCEL | 13.94 | 17.16 | 16.26 |
| % CRUISE | 63.77 | 53.30 | 56.22 |
| % DECEL | 15.40 | 18.53 | 17.66 |
| % MOTOR | 6.89 | 11.00 | 9.86 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 12019. | 31150. | 43169. |
| MEAN | 43.99 | 20.16 | 26.79 |
| MEDIAN | 50.74 | 19.71 | 26.72 |
| STD DEV | 15.29 | 16.25 | 19.23 |
| % ZERO | 2.69 | 17.57 | 13.43 |
| % ACCEL | 12.05 | 28.68 | 24.05 |
| % CRUISE | 74.13 | 31.59 | 43.44 |
| % DECEL | 10.95 | 21.29 | 18.41 |
| % IDLE | 2.87 | 18.44 | 14.10 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 10998. | 26687. | 37685. |
| E(EXP) | 3452.09 | 1782.64 | 2269.66 |
| E(E)XE(P) | 3215.48 | 1208.16 | 1694.51 |
| COV(E,P) | 236.68 | 574.50 | 575.36 |
| R(E,P) | 0.483 | 0.616 | 0.634 |
| ** N | 12063. | 31297. | 43360. |
| E(SXE) | 2393.90 | 948.64 | 1350.72 |
| E(S)XE(E) | 2172.96 | 630.33 | 972.74 |
| COV(S,E) | 220.96 | 318.32 | 377.99 |
| R(S,E) | 0.810 | 0.752 | 0.775 |
| ** N | 10998. | 26687. | 37985. |
| E(SXP) | 3081.69 | 1088.92 | 1670.49 |
| E(S)XE(P) | 2880.11 | 764.59 | 1253.05 |
| COV(S,P) | 201.59 | 324.34 | 417.45 |
| R(S,P) | 0.466 | 0.557 | 0.597 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 25: 2A GAS

(RECORD COUNT = 66639, OPERATING TIME = 15.99 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 36749. | 29890. | 66639. |
| MEAN | 47.13 | 13.51 | 32.05 |
| MEDIAN | 53.25 | 13.33 | 31.58 |
| STD DEV | 15.92 | 12.59 | 22.15 |
| % ACCEL | 2.46 | 7.93 | 4.91 |
| % CRUISE | 91.68 | 50.99 | 73.44 |
| % DECEL | 2.41 | 6.86 | 4.40 |
| % IDLE | 3.46 | 34.22 | 17.25 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 36749. | 29849. | 66598. |
| MEAN | 43.23 | 16.98 | 31.47 |
| MEDIAN | 47.62 | 18.36 | 32.85 |
| STD DEV | 11.58 | 12.28 | 17.66 |
| % ZERO | 0.53 | 15.48 | 7.23 |
| % ACCEL | 11.31 | 25.13 | 17.51 |
| % CRUISE | 79.65 | 37.97 | 60.97 |
| % DECEL | 8.53 | 21.67 | 14.42 |
| % IDLE | 0.51 | 15.22 | 7.11 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 34214. | 25330. | 59544. |
| TOTAL N | 36749. | 29849. | 66598. |
| MEAN | 50.01 | 29.95 | 41.48 |
| MEDIAN | 52.19 | 24.34 | 46.42 |
| STD DEV | 19.98 | 29.28 | 26.31 |
| % ACCEL | 12.53 | 15.44 | 13.83 |
| % CRUISE | 69.90 | 55.25 | 63.34 |
| % DECEL | 12.17 | 18.51 | 15.01 |
| % MOTOR | 5.40 | 10.80 | 7.82 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 34214. | 25361. | 59575. |
| E(EXP) | 2499.70 | 623.75 | 1701.11 |
| E(E)XE(P) | 2427.75 | 399.44 | 1391.38 |
| COV(E,P) | 71.95 | 224.32 | 309.74 |
| R(E,P) | 0.242 | 0.586 | 0.525 |
| ** N | 36749. | 29890. | 66639. |
| E(SXE) | 2220.81 | 351.67 | 1382.43 |
| E(S)XE(E) | 2041.64 | 228.42 | 1008.99 |
| COV(S,E) | 179.17 | 123.25 | 373.45 |
| R(S,E) | 0.951 | 0.781 | 0.943 |
| ** N | 34214. | 25361. | 59575. |
| E(SXP) | 2265.87 | 677.65 | 1589.70 |
| E(S)XE(P) | 2206.84 | 489.49 | 1339.34 |
| COV(S,P) | 59.02 | 188.17 | 250.43 |
| R(S,P) | 0.268 | 0.506 | 0.526 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV: EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 26: 2A GAS

(RECORD COUNT = 38261, OPERATING TIME = 9.18 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 16033. | 22228. | 38261. |
| MEAN | 41.92 | 26.33 | 32.86 |
| MEDIAN | 49.73 | 27.39 | 37.09 |
| STD DEV | 18.84 | 20.71 | 21.38 |
| % ACCEL | 5.45 | 11.91 | 9.20 |
| % CRUISE | 80.19 | 53.72 | 64.81 |
| % DECEL | 5.17 | 10.48 | 8.25 |
| % IDLE | 9.19 | 23.89 | 17.73 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 13852. | 17239. | 31091. |
| TOTAL N | 15989. | 22160. | 38149. |
| MEAN | 49.66 | 37.18 | 42.74 |
| MEDIAN | 53.07 | 27.88 | 41.69 |
| STD DEV | 29.55 | 35.13 | 33.35 |
| % ACCEL | 18.18 | 16.27 | 17.07 |
| % CRUISE | 48.55 | 43.62 | 45.68 |
| % DECEL | 22.31 | 22.15 | 22.22 |
| % MOTOR | 10.97 | 17.96 | 15.03 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 15989. | 22160. | 38149. |
| MEAN | 39.52 | 18.86 | 27.52 |
| MEDIAN | 48.26 | 18.65 | 25.97 |
| STD DEV | 19.13 | 15.46 | 19.91 |
| % ZERO | 6.28 | 18.74 | 13.52 |
| % ACCEL | 24.42 | 31.44 | 28.50 |
| % CRUISE | 47.47 | 23.64 | 33.63 |
| % DECEL | 21.86 | 26.31 | 24.45 |
| % IDLE | 6.25 | 18.60 | 13.42 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 13893. | 17287. | 31180. |
| E(EXP) | 2414.40 | 1361.18 | 1830.47 |
| E(E)XE(P) | 2164.53 | 961.82 | 1443.04 |
| COV(E,P) | 249.88 | 399.39 | 387.43 |
| R(E,P) | 0.454 | 0.521 | 0.522 |
| ** N | 16033. | 22228. | 38261. |
| E(SXE) | 1983.33 | 741.49 | 1260.62 |
| E(S)XE(E) | 1657.23 | 495.98 | 903.86 |
| COV(S,E) | 323.12 | 245.52 | 356.77 |
| R(S,E) | 0.882 | 0.760 | 0.830 |
| ** N | 13893. | 17287. | 31180. |
| E(SXP) | 2262.96 | 925.93 | 1521.67 |
| E(S)XE(P) | 2037.95 | 665.24 | 1205.43 |
| COV(S,P) | 225.03 | 260.71 | 316.25 |
| R(S,P) | 0.395 | 0.451 | 0.448 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 28: 2A GAS

(RECORD COUNT = 35034, OPERATING TIME = 8.41 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8170. | 26864. | 35034. |
| MEAN | 61.65 | 30.13 | 37.48 |
| MEDIAN | 66.03 | 33.25 | 38.59 |
| STD DEV | 14.96 | 20.64 | 23.59 |
| % ACCEL | 3.65 | 13.25 | 11.01 |
| % CRUISE | 92.26 | 58.71 | 66.55 |
| % DECEL | 3.45 | 10.15 | 8.58 |
| % IDLE | 0.64 | 17.89 | 13.86 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 7525. | 22047. | 29572. |
| TOTAL N | 8156. | 26772. | 34928. |
| MEAN | 51.29 | 40.27 | 43.07 |
| MEDIAN | 48.92 | 36.86 | 41.45 |
| STD DEV | 24.31 | 32.55 | 31.04 |
| % ACCEL | 11.78 | 14.97 | 14.23 |
| % CRUISE | 68.50 | 52.86 | 56.52 |
| % DECEL | 12.92 | 18.32 | 17.06 |
| % MOTOR | 6.79 | 13.84 | 12.20 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8156. | 26772. | 34928. |
| MEAN | 44.45 | 21.14 | 26.58 |
| MEDIAN | 48.18 | 23.69 | 28.41 |
| STD DEV | 10.51 | 13.07 | 15.94 |
| % ZERO | 0.22 | 10.70 | 8.25 |
| % ACCEL | 10.29 | 28.36 | 24.14 |
| % CRUISE | 82.50 | 40.14 | 50.03 |
| % DECEL | 6.96 | 20.25 | 17.15 |
| % IDLE | 0.25 | 11.25 | 8.68 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 7537. | 22109. | 29646. |
| E(EXP) | 3300.90 | 1646.79 | 2067.31 |
| E(E)XE(P) | 3254.06 | 1251.32 | 1692.58 |
| COV(E,P) | 46.85 | 395.48 | 374.75 |
| R(E,P) | 0.146 | 0.571 | 0.501 |
| ** N | 8170. | 26864. | 35034. |
| E(SXE) | 2873.15 | 825.87 | 1303.30 |
| E(S)XE(E) | 2739.49 | 634.82 | 993.92 |
| COV(S,E) | 133.68 | 191.06 | 309.39 |
| R(S,E) | 0.838 | 0.703 | 0.818 |
| ** N | 7537. | 22109. | 29646. |
| E(SXP) | 2353.32 | 1012.23 | 1353.17 |
| E(S)XE(P) | 2330.36 | 840.64 | 1167.85 |
| COV(S,P) | 22.97 | 171.59 | 185.33 |
| R(S,P) | 0.096 | 0.385 | 0.358 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 30: 2A GAS

(RECORD COUNT = 34212, OPERATING TIME = 8.21 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 2147. | 32065. | 34212. |
| MEAN | 45.57 | 20.94 | 22.49 |
| MEDIAN | 57.55 | 16.39 | 18.29 |
| STD DEV | 26.93 | 21.27 | 22.48 |
| % ACCEL | 6.57 | 12.57 | 12.19 |
| % CRUISE | 70.96 | 41.32 | 43.18 |
| % DECEL | 6.62 | 10.85 | 10.58 |
| % IDLE | 15.85 | 35.26 | 34.04 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 1609. | 22604. | 24213. |
| TOTAL N | 2145. | 31630. | 34075. |
| MEAN | 34.16 | 25.23 | 25.82 |
| MEDIAN | 30.86 | 12.15 | 13.67 |
| STD DEV | 26.55 | 30.39 | 30.23 |
| % ACCEL | 23.73 | 19.51 | 19.78 |
| % CRUISE | 27.69 | 35.67 | 35.16 |
| % DECEL | 28.86 | 21.96 | 22.39 |
| % MOTOR | 19.72 | 22.86 | 22.66 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 2145. | 31930. | 34075. |
| MEAN | 34.97 | 14.28 | 15.59 |
| MEDIAN | 46.17 | 11.67 | 12.64 |
| STD DEV | 19.60 | 13.07 | 14.47 |
| % ZERO | 7.18 | 22.72 | 21.74 |
| % ACCEL | 18.93 | 23.40 | 23.12 |
| % CRUISE | 56.74 | 33.25 | 34.73 |
| % DECEL | 16.78 | 18.04 | 17.96 |
| % IDLE | 7.55 | 25.31 | 24.19 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 1611. | 22703. | 24314. |
| E(EXP) | 1926.11 | 915.39 | 982.36 |
| E(E)XE(P) | 1614.29 | 488.47 | 547.68 |
| COV(E,P) | 312.01 | 426.94 | 434.69 |
| R(E,P) | 0.427 | 0.642 | 0.615 |
| ** N | 2147. | 32065. | 34212. |
| E(SXE) | 2083.59 | 505.57 | 604.60 |
| E(S)XE(E) | 1587.84 | 298.46 | 349.54 |
| COV(S,E) | 495.98 | 207.12 | 255.06 |
| R(S,E) | 0.938 | 0.738 | 0.778 |
| ** N | 1611. | 22703. | 24314. |
| E(SXP) | 1446.82 | 581.93 | 639.23 |
| E(S)XE(P) | 1234.42 | 328.08 | 375.38 |
| COV(S,P) | 212.52 | 253.86 | 263.86 |
| R(S,P) | 0.395 | 0.612 | 0.570 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 32: 2A GAS

(RECORD COUNT = 25097, OPERATING TIME = 6.02 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 13694. | 11403. | 25097. |
| MEAN | 59.07 | 24.90 | 43.55 |
| MEDIAN | 68.87 | 26.04 | 45.89 |
| STD DEV | 24.46 | 20.84 | 28.52 |
| % ACCEL | 5.56 | 10.92 | 7.99 |
| % CRUISE | 82.21 | 51.18 | 68.12 |
| % DECEL | 5.31 | 9.98 | 7.43 |
| % IDLE | 6.93 | 27.92 | 16.46 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 11600. | 8560. | 20160. |
| TOTAL N | 13681. | 11378. | 25059. |
| MEAN | 43.36 | 33.19 | 39.04 |
| MEDIAN | 42.79 | 23.59 | 37.93 |
| STD DEV | 25.62 | 33.30 | 29.56 |
| % ACCEL | 21.10 | 16.74 | 20.03 |
| % CRUISE | 43.47 | 38.72 | 41.31 |
| % DECEL | 23.56 | 23.22 | 23.40 |
| % MOTOR | 11.87 | 19.33 | 15.26 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 13681. | 11378. | 25059. |
| MEAN | 44.83 | 19.33 | 33.25 |
| MEDIAN | 52.94 | 18.38 | 36.11 |
| STD DEV | 18.02 | 15.31 | 21.09 |
| % ZERO | 3.98 | 18.43 | 10.54 |
| % ACCEL | 16.44 | 26.79 | 21.14 |
| % CRUISE | 65.94 | 31.25 | 50.19 |
| % DECEL | 13.61 | 23.30 | 18.01 |
| % IDLE | 4.01 | 18.66 | 10.66 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 11612. | 8582. | 20194. |
| E(EXP) | 2826.15 | 1227.89 | 2146.92 |
| E(E)XE(P) | 2674.49 | 812.07 | 1790.04 |
| COV(E,P) | 151.67 | 415.86 | 356.90 |
| R(E,P) | 0.249 | 0.569 | 0.410 |
| ** N | 13694. | 11403. | 25097. |
| E(SXE) | 3057.80 | 740.02 | 2004.70 |
| E(S)XE(E) | 2645.15 | 481.30 | 1446.38 |
| COV(S,E) | 412.68 | 258.74 | 558.34 |
| R(S,E) | 0.930 | 0.801 | 0.923 |
| ** N | 11612. | 8582. | 20194. |
| E(SXP) | 2102.46 | 875.84 | 1581.17 |
| E(S)XE(P) | 2012.17 | 601.30 | 1341.91 |
| COV(S,P) | 90.30 | 274.58 | 239.27 |
| R(S,P) | 0.196 | 0.512 | 0.365 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 36: 2A GAS

(RECORD COUNT = 6995, OPERATING TIME = 1.68 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 794. | 6201. | 6995. |
| MEAN | 47.53 | 23.48 | 26.21 |
| MEDIAN | 57.91 | 23.90 | 25.55 |
| STD DEV | 29.02 | 18.72 | 21.55 |
| % ACCEL | 11.49 | 13.33 | 13.12 |
| % CRUISE | 62.37 | 50.85 | 52.16 |
| % DECEL | 10.73 | 12.12 | 11.96 |
| % IDLE | 15.40 | 23.70 | 22.76 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 675. | 5085. | 5760. |
| TOTAL N | 792. | 6181. | 6973. |
| MEAN | 48.16 | 35.06 | 36.60 |
| MEDIAN | 48.37 | 28.38 | 31.02 |
| STD DEV | 34.67 | 34.29 | 34.59 |
| % ACCEL | 18.06 | 18.86 | 18.77 |
| % CRUISE | 52.27 | 47.42 | 47.97 |
| % DECEL | 18.69 | 21.86 | 21.50 |
| % MOTOR | 10.98 | 11.86 | 11.76 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 792. | 6181. | 6973. |
| MEAN | 34.04 | 18.97 | 20.68 |
| MEDIAN | 40.00 | 19.19 | 20.37 |
| STD DEV | 21.63 | 13.63 | 15.51 |
| % ZERO | 11.99 | 15.55 | 15.14 |
| % ACCEL | 28.41 | 31.65 | 31.28 |
| % CRUISE | 41.79 | 29.40 | 30.80 |
| % DECEL | 17.93 | 23.67 | 23.02 |
| % IDLE | 11.87 | 15.29 | 14.90 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 676. | 5100. | 5776. |
| E(EXP) | 2832.37 | 1138.22 | 1336.50 |
| E(E)XE(P) | 2310.25 | 800.32 | 942.94 |
| COV(E,P) | 522.89 | 337.96 | 393.63 |
| R(E,P) | 0.501 | 0.516 | 0.512 |
| ** N | 794. | 6201. | 6995. |
| E(SXE) | 2180.53 | 644.23 | 818.61 |
| E(S)XE(E) | 1604.94 | 444.62 | 540.37 |
| COV(S,E) | 576.32 | 199.64 | 278.26 |
| R(S,E) | 0.925 | 0.772 | 0.828 |
| ** N | 676. | 5100. | 5776. |
| E(SXP) | 1958.20 | 822.72 | 955.61 |
| E(S)XE(P) | 1634.12 | 625.38 | 721.61 |
| COV(S,P) | 324.55 | 197.38 | 234.04 |
| R(S,P) | 0.415 | 0.410 | 0.420 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 40: 2A GAS

(RECORD COUNT = 39369, OPERATING TIME = 9.45 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 20474. | 18895. | 39369. |
| MEAN | 66.03 | 35.23 | 51.25 |
| MEDIAN | 70.02 | 38.46 | 59.88 |
| STD DEV | 12.52 | 24.69 | 24.72 |
| % ACCEL | 3.53 | 16.75 | 9.87 |
| % CRUISE | 92.21 | 49.32 | 71.65 |
| % DECEL | 3.32 | 15.80 | 9.30 |
| % IDLE | 0.94 | 16.13 | 9.18 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 18683. | 13349. | 32032. |
| TOTAL N | 20429. | 18809. | 39238. |
| MEAN | 64.10 | 39.55 | 53.87 |
| MEDIAN | 66.68 | 37.56 | 56.76 |
| STD DEV | 25.50 | 32.52 | 31.09 |
| % ACCEL | 21.35 | 23.33 | 22.30 |
| % CRUISE | 50.18 | 31.14 | 41.05 |
| % DECEL | 22.02 | 24.82 | 23.37 |
| % MOTOR | 6.45 | 20.70 | 13.28 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 20429. | 18809. | 39238. |
| MEAN | 48.26 | 19.19 | 34.33 |
| MEDIAN | 51.94 | 20.01 | 37.50 |
| STD DEV | 10.04 | 13.21 | 18.63 |
| % ZERO | 0.50 | 12.49 | 6.25 |
| % ACCEL | 24.96 | 32.03 | 28.35 |
| % CRUISE | 55.26 | 30.84 | 43.56 |
| % DECEL | 19.19 | 23.73 | 21.37 |
| % IDLE | 0.58 | 13.40 | 6.72 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 18718. | 13402. | 32120. |
| E(EXP) | 4301.11 | 1915.48 | 3340.68 |
| E(E)XE(P) | 4308.92 | 1429.97 | 2922.16 |
| COV(E,P) | 52.19 | 485.54 | 418.53 |
| R(E,P) | 0.181 | 0.572 | 0.553 |
| ** N | 20474. | 18895. | 39369. |
| E(SXE) | 3249.55 | 882.82 | 2113.64 |
| E(S)XE(E) | 3155.58 | 675.31 | 1746.18 |
| COV(S,E) | 93.98 | 207.52 | 367.47 |
| R(S,E) | 0.752 | 0.634 | 0.803 |
| ** N | 18718. | 13402. | 32120. |
| E(SXP) | 3182.81 | 972.24 | 2260.46 |
| E(S)XE(P) | 3143.58 | 740.98 | 1960.01 |
| COV(S,P) | 39.23 | 231.27 | 300.45 |
| R(S,P) | 0.164 | 0.506 | 0.511 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 42: 2A GAS

(RECORD COUNT = 25387, OPERATING TIME = 6.09 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 11236. | 14151. | 25387. |
| MEAN | 56.45 | 19.48 | 35.84 |
| MEDIAN | 59.20 | 19.20 | 38.82 |
| STD DEV | 13.26 | 18.33 | 24.54 |
| % ACCEL | 2.74 | 9.87 | 6.72 |
| % CRUISE | 92.17 | 46.97 | 66.99 |
| % DECEL | 2.77 | 8.06 | 5.72 |
| % IDLE | 2.32 | 35.09 | 20.58 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 10451. | 10862. | 21313. |
| TOTAL N | 11232. | 14127. | 25359. |
| MEAN | 42.53 | 24.60 | 33.39 |
| MEDIAN | 43.80 | 17.13 | 34.75 |
| STD DEV | 19.69 | 26.14 | 24.87 |
| % ACCEL | 11.55 | 13.44 | 12.60 |
| % CRUISE | 70.41 | 53.05 | 60.74 |
| % DECEL | 12.37 | 15.30 | 14.00 |
| % MOTOR | 5.68 | 18.22 | 12.67 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 11232. | 14127. | 25359. |
| MEAN | 46.47 | 15.55 | 29.25 |
| MEDIAN | 48.78 | 15.30 | 30.90 |
| STD DEV | 9.93 | 12.92 | 19.30 |
| % ZERO | 0.40 | 19.08 | 10.80 |
| % ACCEL | 9.41 | 27.82 | 19.67 |
| % CRUISE | 82.28 | 29.43 | 52.84 |
| % DECEL | 7.78 | 22.21 | 15.82 |
| % IDLE | 0.53 | 20.54 | 11.68 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 10454. | 10877. | 21331. |
| E(EXP) | 2500.29 | 784.42 | 1625.33 |
| E(E)XE(P) | 2443.58 | 475.43 | 1269.13 |
| COV(E,P) | 56.72 | 309.01 | 356.21 |
| R(E,P) | 0.234 | 0.621 | 0.574 |
| ** N | 11236. | 14151. | 25387. |
| E(SXE) | 2753.02 | 487.40 | 1490.14 |
| E(S)XE(E) | 2626.39 | 302.83 | 1049.20 |
| COV(S,E) | 124.65 | 184.58 | 440.95 |
| R(S,E) | 0.924 | 0.775 | 0.925 |
| ** N | 10454. | 10877. | 21331. |
| E(SXP) | 2043.59 | 576.68 | 1295.59 |
| E(S)XE(P) | 2004.19 | 367.36 | 1025.29 |
| COV(S,P) | 39.41 | 209.34 | 270.31 |
| R(S,P) | 0.213 | 0.595 | 0.547 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 47: 2A GAS

(RECORD COUNT = 61046, OPERATING TIME = 14.65 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 32115. | 28931. | 61046. |
| MEAN | 46.09 | 20.62 | 34.02 |
| MEDIAN | 49.94 | 20.31 | 40.20 |
| STD DEV | 11.54 | 17.26 | 19.31 |
| % ACCEL | 3.09 | 9.74 | 6.24 |
| % CRUISE | 92.21 | 53.88 | 74.04 |
| % DECEL | 3.04 | 8.58 | 5.67 |
| % IDLE | 1.65 | 27.80 | 14.04 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 29836. | 23468. | 53304. |
| TOTAL N | 31998. | 28830. | 60828. |
| MEAN | 73.76 | 40.24 | 59.00 |
| MEDIAN | 84.68 | 33.96 | 76.13 |
| STD DEV | 25.12 | 36.65 | 34.95 |
| % ACCEL | 14.81 | 16.54 | 15.63 |
| % CRUISE | 63.89 | 48.40 | 56.55 |
| % DECEL | 15.93 | 20.68 | 18.18 |
| % MOTOR | 5.37 | 14.38 | 9.64 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 31998. | 28830. | 60828. |
| MEAN | 47.70 | 20.93 | 35.01 |
| MEDIAN | 51.73 | 22.29 | 38.39 |
| STD DEV | 10.65 | 15.08 | 18.61 |
| % ZERO | 0.23 | 15.52 | 7.48 |
| % ACCEL | 10.39 | 24.82 | 17.23 |
| % CRUISE | 82.22 | 40.00 | 62.21 |
| % DECEL | 7.11 | 18.19 | 12.36 |
| % IDLE | 0.28 | 17.00 | 8.20 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 29947. | 23549. | 53496. |
| E(EXP) | 3568.06 | 1201.80 | 2526.43 |
| E(E)XE(P) | 3483.57 | 827.40 | 2093.90 |
| COV(E,P) | 84.50 | 374.42 | 432.54 |
| R(E,P) | 0.321 | 0.561 | 0.633 |
| ** N | 32115. | 28931. | 61046. |
| E(SXE) | 2299.29 | 629.92 | 1506.14 |
| E(S)XE(E) | 2192.63 | 431.73 | 1188.96 |
| COV(S,E) | 106.67 | 198.20 | 319.18 |
| R(S,E) | 0.842 | 0.754 | 0.861 |
| ** N | 29947. | 23549. | 53496. |
| E(SXP) | 3669.97 | 1135.10 | 2554.12 |
| E(S)XE(P) | 3581.31 | 817.14 | 2131.02 |
| COV(S,P) | 88.67 | 317.97 | 423.11 |
| R(S,P) | 0.351 | 0.539 | 0.632 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 2: 2A GAS

(RECORD COUNT = 21403, OPERATING TIME = 5.14 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4080. | 17323. | 21403. |
| MEAN | 40.16 | 11.32 | 16.81 |
| MEDIAN | 42.56 | 1.43 | 5.33 |
| STD DEV | 21.95 | 17.63 | 21.72 |
| % ACCEL | 8.22 | 10.75 | 10.27 |
| % CRUISE | 73.68 | 26.75 | 35.68 |
| % DECEL | 7.75 | 9.40 | 9.08 |
| % IDLE | 10.36 | 53.10 | 44.96 |

### POWER

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| * | N | 4064. | 17202. | 21266. |
| | TOTAL N | 4065. | 17292. | 21357. |
| | MEAN | 54.27 | 26.16 | 31.53 |
| | MEDIAN | 59.51 | 7.43 | 10.32 |
| | STD DEV | 41.40 | 36.68 | 39.21 |
| | % ACCEL | 15.18 | 11.28 | 12.02 |
| | % CRUISE | 67.53 | 73.72 | 72.54 |
| | % DECEL | 17.29 | 14.71 | 15.20 |
| | % MOTOR | 0.0 | 0.29 | 0.24 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4065. | 17292. | 21357. |
| MEAN | 37.22 | 10.92 | 15.93 |
| MEDIAN | 40.31 | 6.36 | 11.73 |
| STD DEV | 14.49 | 12.40 | 16.46 |
| % ZERO | 1.53 | 37.13 | 30.36 |
| % ACCEL | 18.77 | 18.79 | 18.79 |
| % CRUISE | 60.49 | 26.91 | 33.31 |
| % DECEL | 18.75 | 15.31 | 15.97 |
| % IDLE | 1.99 | 38.98 | 31.94 |

### INTERACTION STATISTICS

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| ** | N | 4079. | 17225. | 21304. |
| | E(EXP) | 2473.20 | 656.91 | 1004.66 |
| | E(E)XE(P) | 2186.92 | 297.83 | 533.45 |
| | COV(E,P) | 286.35 | 359.10 | 471.23 |
| | R(E,P) | 0.315 | 0.555 | 0.553 |
| ** | N | 4080. | 17323. | 21403. |
| | E(SXE) | 1756.65 | 266.02 | 550.17 |
| | E(S)XE(E) | 1490.79 | 121.92 | 265.64 |
| | COV(S,E) | 265.92 | 144.10 | 284.55 |
| | R(S,E) | 0.831 | 0.653 | 0.790 |
| ** | N | 4079. | 17225. | 21304. |
| | E(SXP) | 2142.41 | 510.24 | 822.75 |
| | E(S)XE(P) | 2027.14 | 286.41 | 504.58 |
| | COV(S,P) | 115.30 | 223.84 | 318.19 |
| | R(S,P) | 0.192 | 0.492 | 0.492 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 3: 2A GAS

(RECORD COUNT = 29363, OPERATING TIME = 7.03 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 371. | 28992. | 29363. |
| MEAN | 45.55 | 17.53 | 17.88 |
| MEDIAN | 51.05 | 12.69 | 13.16 |
| STD DEV | 15.15 | 18.77 | 18.99 |
| % ACCEL | 7.55 | 9.40 | 9.37 |
| % CRUISE | 81.94 | 42.94 | 43.43 |
| % DECEL | 6.74 | 8.69 | 8.67 |
| % IDLE | 3.77 | 38.97 | 38.52 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 271. | 20806. | 21077. |
| TOTAL N | 371. | 28927. | 29298. |
| MEAN | 55.50 | 27.20 | 27.56 |
| MEDIAN | 57.00 | 7.90 | 8.60 |
| STD DEV | 31.36 | 34.17 | 34.29 |
| % ACCEL | 17.25 | 15.65 | 15.67 |
| % CRUISE | 33.69 | 43.64 | 43.51 |
| % DECEL | 25.88 | 19.07 | 19.15 |
| % MOTOR | 23.18 | 21.65 | 21.67 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 371. | 28927. | 29298. |
| MEAN | 34.05 | 11.45 | 11.74 |
| MEDIAN | 39.28 | 9.26 | 9.47 |
| STD DEV | 13.66 | 11.88 | 12.17 |
| % ZERO | 4.31 | 31.46 | 31.11 |
| % ACCEL | 26.42 | 18.41 | 18.51 |
| % CRUISE | 56.06 | 33.00 | 33.29 |
| % DECEL | 12.40 | 15.05 | 15.02 |
| % IDLE | 5.12 | 33.54 | 33.18 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 271. | 20858. | 21129. |
| E(EXP) | 2546.42 | 822.45 | 844.56 |
| E(E)XE(P) | 2730.26 | 427.58 | 445.12 |
| COV(E,P) | -184.52 | 394.88 | 399.46 |
| R(E,P) | -0.521 | 0.600 | 0.597 |
| ** N | 371. | 28992. | 29363. |
| E(SXE) | 1715.42 | 376.05 | 392.97 |
| E(S)XE(E) | 1539.31 | 200.02 | 209.12 |
| COV(S,E) | 176.58 | 176.04 | 183.86 |
| R(S,E) | 0.837 | 0.783 | 0.790 |
| ** N | 271. | 20858. | 21129. |
| E(SXP) | 1821.55 | 495.52 | 512.53 |
| E(S)XE(P) | 2030.29 | 269.59 | 282.61 |
| COV(S,P) | -209.51 | 225.94 | 229.93 |
| R(S,P) | -0.588 | 0.539 | 0.531 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 4: 2A GAS

(RECORD COUNT = 54119, OPERATING TIME = 12.99 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 54119. | 54119. |
| MEAN | | 7.68 | 7.68 |
| MEDIAN | | 2.65 | 2.65 |
| STD DEV | | 11.62 | 11.62 |
| % ACCEL | | 8.36 | 8.36 |
| % CRUISE | | 30.42 | 30.42 |
| % DECEL | | 7.90 | 7.90 |
| % IDLE | | 53.32 | 53.32 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 25987. | 25987. |
| TOTAL N | 0. | 53574. | 53574. |
| MEAN | | 14.13 | 14.13 |
| MEDIAN | | 4.39 | 4.39 |
| STD DEV | | 22.39 | 22.39 |
| % ACCEL | | 12.59 | 12.59 |
| % CRUISE | | 28.11 | 28.11 |
| % DECEL | | 14.34 | 14.34 |
| % MOTOR | | 44.96 | 44.96 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 53574. | 53574. |
| MEAN | | 3.76 | 3.76 |
| MEDIAN | | 0.82 | 0.82 |
| STD DEV | | 5.90 | 5.90 |
| % ZERO | | 55.98 | 55.98 |
| % ACCEL | | 9.78 | 9.78 |
| % CRUISE | | 21.35 | 21.35 |
| % DECEL | | 9.28 | 9.28 |
| % IDLE | | 59.59 | 59.59 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 26355. | 26355. |
| E(EXP) | | 261.08 | 261.08 |
| E(E)XE(P) | | 114.57 | 114.57 |
| COV(E,P) | | 146.52 | 146.52 |
| R(E,P) | | 0.497 | 0.497 |
| ** N | 0. | 54119. | 54119. |
| E(SXE) | | 75.39 | 75.39 |
| E(S)XE(E) | | 29.68 | 29.68 |
| COV(S,E) | | 45.71 | 45.71 |
| R(S,E) | | 0.642 | 0.642 |
| ** N | 0. | 26355. | 26355. |
| E(SXP) | | 143.12 | 143.12 |
| E(S)XE(P) | | 62.16 | 62.16 |
| COV(S,P) | | 80.96 | 80.96 |
| R(S,P) | | 0.573 | 0.573 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 5: 2A GAS

(RECORD COUNT = 54023, OPERATING TIME = 12.97 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 948. | 53075. | 54023. |
| MEAN | 39.11 | 22.30 | 22.60 |
| MEDIAN | 36.77 | 17.57 | 18.21 |
| STD DEV | 19.64 | 23.68 | 23.72 |
| % ACCEL | 11.80 | 18.45 | 18.37 |
| % CRUISE | 71.89 | 29.97 | 30.70 |
| % DECEL | 11.91 | 17.70 | 17.60 |
| % IDLE | 4.40 | 33.84 | 33.33 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 582. | 32585. | 33167. |
| TOTAL N | 932. | 52360. | 53292. |
| MEAN | 76.27 | 41.49 | 42.10 |
| MEDIAN | 92.47 | 28.38 | 30.03 |
| STD DEV | 32.54 | 40.85 | 40.97 |
| % ACCEL | 19.85 | 22.05 | 22.01 |
| % CRUISE | 28.00 | 28.92 | 28.90 |
| % DECEL | 21.67 | 20.96 | 20.98 |
| % MOTOR | 30.47 | 28.07 | 28.11 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 932. | 52360. | 53292. |
| MEAN | 32.50 | 11.36 | 11.73 |
| MEDIAN | 33.58 | 9.96 | 10.29 |
| STD DEV | 10.01 | 10.44 | 10.80 |
| % ZERO | 1.07 | 26.59 | 26.14 |
| % ACCEL | 39.16 | 30.53 | 30.68 |
| % CRUISE | 20.71 | 12.31 | 12.46 |
| % DECEL | 39.06 | 31.09 | 31.23 |
| % IDLE | 1.07 | 26.07 | 25.64 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 594. | 33040. | 33634. |
| E(EXP) | 3320.64 | 1584.96 | 1615.01 |
| E(E)XE(P) | 3149.37 | 930.47 | 956.27 |
| COV(E,P) | 171.56 | 654.51 | 657.35 |
| R(E,P) | 0.258 | 0.642 | 0.642 |
| ** N | 948. | 53075. | 54023. |
| E(SXE) | 1367.41 | 417.26 | 433.93 |
| E(S)XE(E) | 1268.52 | 255.75 | 267.46 |
| COV(S,E) | 98.98 | 161.52 | 166.48 |
| R(S,E) | 0.500 | 0.647 | 0.644 |
| ** N | 594. | 33040. | 33634. |
| E(SXP) | 2550.24 | 673.06 | 706.21 |
| E(S)XE(P) | 2477.19 | 416.40 | 439.33 |
| COV(S,P) | 73.17 | 256.66 | 266.89 |
| R(S,P) | 0.223 | 0.596 | 0.595 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 6: 2A GAS

(RECORD COUNT = 62263, OPERATING TIME = 14.94 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 9945. | 52318. | 62263. |
| MEAN | 37.02 | 9.56 | 13.95 |
| MEDIAN | 39.47 | 0.64 | 0.86 |
| STD DEV | 23.55 | 14.99 | 19.46 |
| % ACCEL | 4.33 | 5.35 | 5.18 |
| % CRUISE | 74.08 | 27.36 | 34.82 |
| % DECEL | 4.39 | 5.56 | 5.37 |
| % IDLE | 17.19 | 61.74 | 54.62 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 8403. | 44124. | 52527. |
| TOTAL N | 9945. | 52305. | 62250. |
| MEAN | 56.70 | 18.39 | 24.52 |
| MEDIAN | 70.63 | 3.55 | 4.00 |
| STD DEV | 37.05 | 32.46 | 36.08 |
| % ACCEL | 18.58 | 11.33 | 12.49 |
| % CRUISE | 50.65 | 65.45 | 63.08 |
| % DECEL | 18.71 | 11.38 | 12.55 |
| % MOTOR | 12.06 | 11.84 | 11.87 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 9945. | 52305. | 62250. |
| MEAN | 27.50 | 6.70 | 10.02 |
| MEDIAN | 31.77 | 0.82 | 0.94 |
| STD DEV | 16.37 | 10.93 | 14.19 |
| % ZERO | 14.42 | 58.31 | 51.30 |
| % ACCEL | 16.91 | 11.44 | 12.31 |
| % CRUISE | 55.60 | 20.55 | 26.15 |
| % DECEL | 12.38 | 8.22 | 8.89 |
| % IDLE | 15.11 | 59.79 | 52.65 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 8403. | 44136. | 52539. |
| E(EXP) | 2729.68 | 501.22 | 657.04 |
| E(E)XE(P) | 2144.87 | 147.01 | 312.97 |
| COV(E,P) | 584.87 | 354.21 | 544.67 |
| R(E,P) | 0.644 | 0.739 | 0.756 |
| ** N | 9945. | 52318. | 62263. |
| E(SXE) | 1375.74 | 198.86 | 386.84 |
| E(S)XE(E) | 1018.78 | 63.90 | 139.63 |
| COV(S,E) | 357.00 | 134.96 | 247.21 |
| R(S,E) | 0.917 | 0.618 | 0.890 |
| ** N | 8403. | 44136. | 52539. |
| E(SXP) | 1964.72 | 354.18 | 611.76 |
| E(S)XE(P) | 1566.53 | 104.16 | 224.98 |
| COV(S,P) | 398.23 | 250.03 | 386.79 |
| R(S,P) | 0.629 | 0.719 | 0.744 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 8: 2A GAS

(RECORD COUNT = 49009, OPERATING TIME = 11.76 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 9057. | 39952. | 49009. |
| MEAN | 36.57 | 20.28 | 23.29 |
| MEDIAN | 36.11 | 11.43 | 15.63 |
| STD DEV | 28.50 | 24.04 | 25.71 |
| % ACCEL | 7.19 | 10.95 | 10.25 |
| % CRUISE | 63.29 | 38.21 | 42.85 |
| % DECEL | 7.07 | 10.60 | 9.95 |
| % IDLE | 22.46 | 40.24 | 36.95 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 7735. | 32383. | 40118. |
| TOTAL N | 9040. | 39864. | 48924. |
| MEAN | 41.91 | 29.86 | 32.16 |
| MEDIAN | 39.44 | 12.69 | 17.86 |
| STD DEV | 35.49 | 34.98 | 35.40 |
| % ACCEL | 21.47 | 19.60 | 19.95 |
| % CRUISE | 44.16 | 45.42 | 45.19 |
| % DECEL | 24.30 | 21.75 | 22.22 |
| % MOTOR | 10.07 | 13.22 | 12.64 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 9040. | 39864. | 48924. |
| MEAN | 29.72 | 16.67 | 19.08 |
| MEDIAN | 31.77 | 13.79 | 15.90 |
| STD DEV | 21.35 | 16.38 | 18.13 |
| % ZERO | 14.73 | 24.68 | 22.84 |
| % ACCEL | 20.65 | 25.48 | 24.59 |
| % CRUISE | 45.81 | 27.22 | 30.66 |
| % DECEL | 18.35 | 21.49 | 20.91 |
| % IDLE | 15.19 | 25.81 | 23.85 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 7750. | 32433. | 40183. |
| E(EXP) | 2129.49 | 1007.06 | 1223.54 |
| E(E)XE(P) | 1491.67 | 548.45 | 697.98 |
| COV(E,P) | 637.90 | 458.62 | 525.57 |
| R(E,P) | 0.611 | 0.543 | 0.568 |
| ** N | 9057. | 39952. | 49009. |
| E(SXE) | 1605.55 | 629.37 | 809.77 |
| E(S)XE(E) | 1036.79 | 336.94 | 443.36 |
| COV(S,E) | 518.82 | 292.44 | 366.42 |
| R(S,E) | 0.851 | 0.738 | 0.782 |
| ** N | 7750. | 32433. | 40183. |
| E(SXP) | 1729.31 | 811.49 | 988.51 |
| E(S)XE(P) | 1217.74 | 460.11 | 580.57 |
| COV(S,P) | 511.64 | 351.39 | 407.95 |
| R(S,P) | 0.655 | 0.598 | 0.616 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 9: 2A GAS

(RECORD COUNT = 116649, OPERATING TIME = 28.00 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 21773. | 94876. | 116649. |
| MEAN | 82.96 | 24.75 | 35.62 |
| MEDIAN | 85.72 | 3.15 | 18.92 |
| STD DEV | 41.41 | 34.39 | 42.38 |
| % ACCEL | 13.01 | 11.57 | 11.84 |
| % CRUISE | 69.10 | 28.12 | 35.76 |
| % DECEL | 12.93 | 12.43 | 12.52 |
| % IDLE | 4.95 | 47.88 | 39.88 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 15820. | 67989. | 83809. |
| TOTAL N | 21701. | 94718. | 116419. |
| MEAN | 59.26 | 19.44 | 26.95 |
| MEDIAN | 63.24 | 10.05 | 12.71 |
| STD DEV | 31.38 | 25.98 | 31.25 |
| % ACCEL | 15.52 | 12.18 | 12.80 |
| % CRUISE | 43.45 | 50.86 | 49.48 |
| % DECEL | 18.44 | 13.03 | 14.04 |
| % MOTOR | 22.59 | 23.93 | 23.68 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 21701. | 94718. | 116419. |
| MEAN | 34.26 | 6.12 | 11.37 |
| MEDIAN | 36.87 | 0.79 | 0.94 |
| STD DEV | 17.38 | 10.48 | 16.30 |
| % ZERO | 7.24 | 61.24 | 51.18 |
| % ACCEL | 29.51 | 15.24 | 17.90 |
| % CRUISE | 35.02 | 7.93 | 12.98 |
| % DECEL | 27.79 | 14.71 | 17.14 |
| % IDLE | 7.68 | 62.13 | 51.98 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 15884. | 68110. | 83994. |
| E(EXP) | 5761.68 | 891.02 | 1812.11 |
| E(E)XE(P) | 5272.71 | 365.90 | 885.41 |
| COV(E,P) | 489.00 | 525.13 | 946.71 |
| R(E,P) | 0.377 | 0.592 | 0.673 |
| ** N | 21773. | 94876. | 116649. |
| E(SXE) | 3431.42 | 411.92 | 975.53 |
| E(S)XE(E) | 2846.66 | 151.46 | 405.29 |
| COV(S,E) | 584.79 | 260.46 | 570.25 |
| R(S,E) | 0.810 | 0.721 | 0.823 |
| ** N | 15884. | 68110. | 83994. |
| E(SXP) | 2428.42 | 275.77 | 682.85 |
| E(S)XE(P) | 2207.60 | 104.61 | 307.67 |
| COV(S,P) | 220.84 | 171.17 | 375.19 |
| R(S,P) | 0.426 | 0.625 | 0.696 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 11: 2A GAS

(RECORD COUNT = 51888, OPERATING TIME = 12.45 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 10131. | 41757. | 51888. |
| MEAN | 37.67 | 25.12 | 27.57 |
| MEDIAN | 41.40 | 24.80 | 27.98 |
| STD DEV | 22.44 | 22.08 | 22.70 |
| % ACCEL | 7.92 | 11.27 | 10.62 |
| % CRUISE | 69.56 | 49.26 | 53.23 |
| % DECEL | 8.45 | 11.40 | 10.82 |
| % IDLE | 14.07 | 28.06 | 25.33 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 7250. | 30131. | 37381. |
| TOTAL N | 10127. | 41607. | 51734. |
| MEAN | 49.86 | 40.74 | 42.51 |
| MEDIAN | 50.09 | 27.03 | 32.32 |
| STD DEV | 37.87 | 40.57 | 40.22 |
| % ACCEL | 23.75 | 19.40 | 20.25 |
| % CRUISE | 31.58 | 40.43 | 38.70 |
| % DECEL | 24.14 | 19.44 | 20.36 |
| % MOTOR | 20.53 | 20.73 | 20.69 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 10127. | 41607. | 51734. |
| MEAN | 33.52 | 20.54 | 23.08 |
| MEDIAN | 37.10 | 20.35 | 22.89 |
| STD DEV | 19.80 | 17.00 | 18.32 |
| % ZERO | 7.23 | 20.44 | 17.85 |
| % ACCEL | 18.57 | 23.68 | 22.68 |
| % CRUISE | 55.10 | 34.35 | 38.41 |
| % DECEL | 18.59 | 20.95 | 20.49 |
| % IDLE | 7.73 | 21.02 | 18.42 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 7254. | 30240. | 37494. |
| E(EXP) | 2351.36 | 1523.84 | 1683.93 |
| E(E)XE(P) | 1938.14 | 966.22 | 1132.77 |
| COV(E,P) | 413.28 | 557.64 | 551.17 |
| R(E,P) | 0.459 | 0.588 | 0.566 |
| ** N | 10131. | 41757. | 51888. |
| E(SXE) | 1643.72 | 801.26 | 965.75 |
| E(S)XE(E) | 1263.49 | 515.80 | 636.13 |
| COV(S,E) | 380.26 | 285.47 | 329.63 |
| R(S,E) | 0.848 | 0.757 | 0.788 |
| ** N | 7254. | 30240. | 37494. |
| E(SXP) | 2063.08 | 1155.04 | 1330.71 |
| E(S)XE(P) | 1720.46 | 776.62 | 937.35 |
| COV(S,P) | 342.66 | 378.42 | 393.37 |
| R(S,P) | 0.432 | 0.515 | 0.498 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 12: 2A GAS

(RECORD COUNT = 16155, OPERATING TIME = 3.88 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 978. | 15177. | 16155. |
| MEAN | 51.27 | 19.13 | 21.08 |
| MEDIAN | 53.90 | 15.76 | 18.10 |
| STD DEV | 13.36 | 18.95 | 20.17 |
| % ACCEL | 1.23 | 7.33 | 6.96 |
| % CRUISE | 93.56 | 50.83 | 53.42 |
| % DECEL | 2.15 | 6.56 | 6.29 |
| % IDLE | 3.07 | 35.28 | 33.32 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 769. | 12083. | 12852. |
| TOTAL N | 978. | 15155. | 16133. |
| MEAN | 71.11 | 30.92 | 33.32 |
| MEDIAN | 86.85 | 14.79 | 17.63 |
| STD DEV | 32.54 | 35.51 | 36.60 |
| % ACCEL | 9.51 | 14.28 | 13.99 |
| % CRUISE | 60.84 | 52.93 | 53.41 |
| % DECEL | 9.61 | 16.85 | 16.41 |
| % MOTOR | 20.04 | 15.94 | 16.19 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 978. | 15155. | 16133. |
| MEAN | 39.20 | 12.69 | 14.30 |
| MEDIAN | 40.49 | 9.90 | 11.19 |
| STD DEV | 8.67 | 12.59 | 13.91 |
| % ZERO | 1.02 | 25.84 | 24.34 |
| % ACCEL | 1.23 | 12.74 | 12.04 |
| % CRUISE | 92.43 | 48.18 | 50.86 |
| % DECEL | 4.19 | 11.08 | 10.66 |
| % IDLE | 2.15 | 28.00 | 26.44 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 769. | 12103. | 12872. |
| E(EXP) | 3837.74 | 965.85 | 1137.43 |
| E(E)XE(P) | 3726.70 | 546.88 | 658.44 |
| COV(E,P) | 111.19 | 419.01 | 479.03 |
| R(E,P) | 0.271 | 0.606 | 0.628 |
| ** N | 978. | 15177. | 16155. |
| E(SXE) | 2115.95 | 446.36 | 547.44 |
| E(S)XE(E) | 2010.33 | 242.05 | 300.54 |
| COV(S,E) | 105.73 | 204.32 | 246.91 |
| R(S,E) | 0.901 | 0.851 | 0.875 |
| ** N | 769. | 12103. | 12872. |
| E(SXP) | 2882.34 | 616.54 | 751.90 |
| E(S)XE(P) | 2819.62 | 351.47 | 435.04 |
| COV(S,P) | 62.81 | 265.09 | 316.89 |
| R(S,P) | 0.222 | 0.579 | 0.603 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 13: 2A GAS

(RECORD COUNT = 66433, OPERATING TIME = 15.94 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 18896. | 47537. | 66433. |
| MEAN | 35.91 | 8.00 | 15.94 |
| MEDIAN | 39.72 | 0.83 | 5.93 |
| STD DEV | 23.76 | 12.57 | 20.79 |
| % ACCEL | 7.20 | 9.25 | 8.67 |
| % CRUISE | 70.43 | 25.78 | 38.47 |
| % DECEL | 7.00 | 8.56 | 8.12 |
| % IDLE | 15.37 | 56.40 | 44.74 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 14010. | 38903. | 52913. |
| TOTAL N | 18826. | 47414. | 66240. |
| MEAN | 37.27 | 13.53 | 19.82 |
| MEDIAN | 30.10 | 4.08 | 5.00 |
| STD DEV | 31.82 | 22.95 | 27.66 |
| % ACCEL | 17.52 | 15.02 | 15.73 |
| % CRUISE | 41.31 | 54.65 | 50.86 |
| % DECEL | 20.06 | 17.59 | 18.29 |
| % MOTOR | 21.11 | 12.74 | 15.12 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 18826. | 47414. | 66240. |
| MEAN | 27.64 | 7.12 | 12.95 |
| MEDIAN | 32.08 | 4.21 | 8.32 |
| STD DEV | 15.65 | 8.27 | 14.29 |
| % ZERO | 2.38 | 36.12 | 26.53 |
| % ACCEL | 17.30 | 17.30 | 17.30 |
| % CRUISE | 62.24 | 28.60 | 38.16 |
| % DECEL | 17.02 | 15.38 | 15.85 |
| % IDLE | 3.44 | 38.71 | 28.69 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 14062. | 39002. | 53064. |
| E(EXP) | 1680.80 | 218.97 | 606.35 |
| E(E)XE(P) | 1374.22 | 85.57 | 285.81 |
| COV(E,P) | 306.61 | 133.40 | 320.55 |
| R(E,P) | 0.386 | 0.489 | 0.546 |
| ** N | 18896. | 47537. | 66433. |
| E(SXE) | 1321.80 | 119.70 | 461.62 |
| E(S)XE(E) | 994.33 | 56.71 | 206.41 |
| COV(S,E) | 327.48 | 63.00 | 255.22 |
| R(S,E) | 0.875 | 0.598 | 0.853 |
| ** N | 14062. | 39002. | 53064. |
| E(SXP) | 1268.96 | 185.96 | 472.95 |
| E(S)XE(P) | 1049.07 | 80.91 | 234.97 |
| COV(S,P) | 219.90 | 105.05 | 237.99 |
| R(S,P) | 0.423 | 0.577 | 0.590 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 17: 2A GAS

(RECORD COUNT = 102397, OPERATING TIME = 24.58 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 102397. | 102397. |
| MEAN | | -1.82 | -1.82 |
| MEDIAN | | -1.41 | -1.41 |
| STD DEV | | 15.40 | 15.40 |
| % ACCEL | | 3.61 | 3.61 |
| % CRUISE | | 37.16 | 37.16 |
| % DECEL | | 3.14 | 3.14 |
| % IDLE | | 56.09 | 56.09 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 91000. | 91000. |
| TOTAL N | 0. | 102291. | 102291. |
| MEAN | | 13.37 | 13.37 |
| MEDIAN | | 4.49 | 4.49 |
| STD DEV | | 22.94 | 22.94 |
| % ACCEL | | 8.50 | 8.50 |
| % CRUISE | | 73.13 | 73.13 |
| % DECEL | | 8.92 | 8.92 |
| % MOTOR | | 9.45 | 9.45 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 102291. | 102291. |
| MEAN | | 4.89 | 4.89 |
| MEDIAN | | 0.65 | 0.65 |
| STD DEV | | 10.68 | 10.68 |
| % ZERO | | 75.64 | 75.64 |
| % ACCEL | | 4.26 | 4.26 |
| % CRUISE | | 15.36 | 15.36 |
| % DECEL | | 4.13 | 4.13 |
| % IDLE | | 76.25 | 76.25 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 91090. | 91090. |
| E(EXP) | | 124.75 | 124.75 |
| E(E)XE(P) | | -26.95 | -26.95 |
| COV(E,P) | | 151.70 | 151.70 |
| R(E,P) | | 0.414 | 0.414 |
| ** N | 0. | 102397. | 102397. |
| E(SXE) | | 105.85 | 105.85 |
| E(S)XE(E) | | -7.47 | -7.47 |
| COV(S,E) | | 113.32 | 113.32 |
| R(S,E) | | 0.700 | 0.700 |
| ** N | 0. | 91090. | 91090. |
| E(SXP) | | 235.28 | 235.28 |
| E(S)XE(P) | | 61.91 | 61.91 |
| COV(S,P) | | 173.37 | 173.37 |
| R(S,P) | | 0.706 | 0.706 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 20: 2A GAS

(RECORD COUNT = 106652, OPERATING TIME = 25.60 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1094. | 105558. | 106652. |
| MEAN | 37.55 | 4.56 | 4.90 |
| MEDIAN | 40.96 | 0.31 | 0.32 |
| STD DEV | 15.98 | 9.74 | 10.37 |
| % ACCEL | 4.02 | 4.41 | 4.40 |
| % CRUISE | 84.73 | 13.41 | 14.15 |
| % DECEL | 4.48 | 5.04 | 5.04 |
| % IDLE | 6.76 | 77.14 | 76.41 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 850. | 91563. | 92413. |
| TOTAL N | 1094. | 104926. | 106020. |
| MEAN | 47.67 | 7.44 | 7.81 |
| MEDIAN | 46.92 | 2.96 | 2.99 |
| STD DEV | 27.81 | 20.53 | 20.96 |
| % ACCEL | 20.29 | 7.61 | 7.74 |
| % CRUISE | 37.20 | 74.25 | 73.86 |
| % DECEL | 23.86 | 9.02 | 9.18 |
| % MOTOR | 18.65 | 9.12 | 9.22 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1094. | 104926. | 106020. |
| MEAN | 31.66 | 2.53 | 2.84 |
| MEDIAN | 34.74 | 0.66 | 0.67 |
| STD DEV | 11.99 | 5.42 | 6.26 |
| % ZERO | 4.11 | 73.20 | 72.48 |
| % ACCEL | 16.64 | 7.62 | 7.71 |
| % CRUISE | 62.07 | 10.30 | 10.83 |
| % DECEL | 16.73 | 7.51 | 7.61 |
| % IDLE | 4.57 | 74.57 | 73.85 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 850. | 92037. | 92887. |
| E(EXP) | 2015.11 | 152.18 | 169.23 |
| E(E)XE(P) | 1907.83 | 24.81 | 28.70 |
| COV(E,P) | 107.40 | 127.37 | 140.53 |
| R(E,P) | 0.246 | 0.714 | 0.708 |
| ** N | 1094. | 105558. | 106652. |
| E(SXE) | 1375.80 | 50.89 | 64.48 |
| E(S)XE(E) | 1191.22 | 11.79 | 14.13 |
| COV(S,E) | 184.74 | 39.10 | 50.36 |
| R(S,E) | 0.947 | 0.726 | 0.763 |
| ** N | 850. | 92037. | 92887. |
| E(SXP) | 1665.53 | 74.86 | 89.41 |
| E(S)XE(P) | 1579.63 | 13.35 | 16.29 |
| COV(S,P) | 86.00 | 61.51 | 73.12 |
| R(S,P) | 0.255 | 0.629 | 0.607 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 21: 2A GAS

(RECORD COUNT = 13534, OPERATING TIME = 3.25 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 13534. | 13534. |
| MEAN | | 9.68 | 9.68 |
| MEDIAN | | -0.37 | -0.37 |
| STD DEV | | 15.73 | 15.73 |
| % ACCEL | | 8.87 | 8.87 |
| % CRUISE | | 18.43 | 18.43 |
| % DECEL | | 10.49 | 10.49 |
| % IDLE | | 62.20 | 62.20 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 11369. | 11369. |
| TOTAL N | 0. | 13483. | 13483. |
| MEAN | | 17.65 | 17.65 |
| MEDIAN | | 3.64 | 3.64 |
| STD DEV | | 31.28 | 31.28 |
| % ACCEL | | 15.21 | 15.21 |
| % CRUISE | | 59.68 | 59.68 |
| % DECEL | | 15.35 | 15.35 |
| % MOTOR | | 9.75 | 9.75 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 13483. | 13483. |
| MEAN | | 4.01 | 4.01 |
| MEDIAN | | 0.83 | 0.83 |
| STD DEV | | 6.62 | 6.62 |
| % ZERO | | 56.99 | 56.99 |
| % ACCEL | | 11.41 | 11.41 |
| % CRUISE | | 18.94 | 18.94 |
| % DECEL | | 11.04 | 11.04 |
| % IDLE | | 58.60 | 58.60 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 11418. | 11418. |
| E(EXP) | | 469.99 | 469.99 |
| E(E)XE(P) | | 144.07 | 144.07 |
| COV(E,P) | | 325.95 | 325.95 |
| R(E,P) | | 0.687 | 0.687 |
| ** N | 0. | 13534. | 13534. |
| E(SXE) | | 109.16 | 109.16 |
| E(S)XE(E) | | 38.79 | 38.79 |
| COV(S,E) | | 70.38 | 70.38 |
| R(S,E) | | 0.670 | 0.670 |
| ** N | 0. | 11418. | 11418. |
| E(SXP) | | 173.28 | 173.28 |
| E(S)XE(P) | | 55.19 | 55.19 |
| COV(S,P) | | 118.10 | 118.10 |
| R(S,P) | | 0.621 | 0.621 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 25: 2A GAS

(RECORD COUNT = 55817, OPERATING TIME = 13.40 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14866. | 40951. | 55817. |
| MEAN | 31.15 | 16.42 | 20.34 |
| MEDIAN | 31.33 | 1.70 | 10.62 |
| STD DEV | 25.37 | 21.73 | 23.67 |
| % ACCEL | 9.08 | 12.53 | 11.61 |
| % CRUISE | 59.66 | 27.90 | 36.36 |
| % DECEL | 8.50 | 11.33 | 10.58 |
| % IDLE | 22.76 | 48.24 | 41.46 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 11369. | 32981. | 44350. |
| TOTAL N | 14839. | 40897. | 55736. |
| MEAN | 42.97 | 24.85 | 29.50 |
| MEDIAN | 41.29 | 4.73 | 11.56 |
| STD DEV | 34.64 | 32.53 | 34.02 |
| % ACCEL | 23.53 | 20.47 | 21.29 |
| % CRUISE | 36.54 | 46.49 | 43.84 |
| % DECEL | 23.84 | 20.44 | 21.34 |
| % MOTOR | 16.10 | 12.60 | 13.53 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14839. | 40897. | 55736. |
| MEAN | 22.38 | 9.12 | 12.65 |
| MEDIAN | 23.70 | 5.56 | 9.33 |
| STD DEV | 15.11 | 9.81 | 12.88 |
| % ZERO | 6.96 | 31.62 | 25.05 |
| % ACCEL | 29.40 | 24.73 | 25.98 |
| % CRUISE | 34.42 | 16.82 | 21.50 |
| % DECEL | 28.59 | 24.40 | 25.51 |
| % IDLE | 7.59 | 34.05 | 27.00 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 11394. | 33026. | 44420. |
| E(EXP) | 1736.31 | 780.56 | 1025.71 |
| E(E)XE(P) | 1318.82 | 343.56 | 535.38 |
| COV(E,P) | 417.52 | 437.01 | 490.35 |
| R(E,P) | 0.463 | 0.634 | 0.606 |
| ** N | 14866. | 40951. | 55817. |
| E(SXE) | 1006.96 | 318.71 | 502.01 |
| E(S)XE(E) | 697.63 | 149.67 | 257.40 |
| COV(S,E) | 309.35 | 169.05 | 244.62 |
| R(S,E) | 0.802 | 0.789 | 0.798 |
| ** N | 11394. | 33026. | 44420. |
| E(SXP) | 1280.85 | 401.28 | 626.89 |
| E(S)XE(P) | 977.38 | 189.77 | 339.51 |
| COV(S,P) | 303.49 | 211.51 | 287.39 |
| R(S,P) | 0.565 | 0.681 | 0.642 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 31: 2A GAS

(RECORD COUNT = 107484, OPERATING TIME = 25.80 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 19856. | 87628. | 107484. |
| MEAN | 34.71 | 7.38 | 12.43 |
| MEDIAN | 42.01 | 0.35 | 0.54 |
| STD DEV | 23.93 | 15.15 | 20.13 |
| % ACCEL | 3.75 | 4.57 | 4.42 |
| % CRUISE | 66.53 | 16.78 | 25.79 |
| % DECEL | 3.86 | 4.02 | 3.99 |
| % IDLE | 25.86 | 74.63 | 65.80 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 16709. | 78881. | 95590. |
| TOTAL N | 19335. | 87418. | 106753. |
| MEAN | 41.14 | 10.74 | 16.05 |
| MEDIAN | 45.77 | 3.19 | 3.58 |
| STD DEV | 32.79 | 23.59 | 27.94 |
| % ACCEL | 21.84 | 10.51 | 12.56 |
| % CRUISE | 46.98 | 73.06 | 68.34 |
| % DECEL | 21.57 | 10.27 | 12.31 |
| % MOTOR | 9.61 | 6.17 | 6.79 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 19335. | 87418. | 106753. |
| MEAN | 24.62 | 4.63 | 8.25 |
| MEDIAN | 27.07 | 0.71 | 0.81 |
| STD DEV | 17.42 | 8.92 | 13.39 |
| % ZERO | 21.76 | 64.53 | 56.79 |
| % ACCEL | 33.02 | 13.37 | 16.93 |
| % CRUISE | 12.61 | 4.31 | 5.81 |
| % DECEL | 30.97 | 13.26 | 16.46 |
| % IDLE | 23.40 | 69.07 | 60.80 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 17156. | 79063. | 96219. |
| E(EXP) | 1937.55 | 316.29 | 605.36 |
| E(E)XE(P) | 1408.24 | 64.83 | 178.74 |
| COV(E,P) | 529.33 | 251.46 | 426.62 |
| R(E,P) | 0.657 | 0.741 | 0.767 |
| ** N | 19856. | 87626. | 107484. |
| E(SXE) | 1242.22 | 151.30 | 352.83 |
| E(S)XE(E) | 857.14 | 34.38 | 103.90 |
| COV(S,E) | 385.10 | 116.92 | 248.93 |
| R(S,E) | 0.928 | 0.858 | 0.916 |
| ** N | 17156. | 79063. | 96219. |
| E(SXP) | 1368.81 | 188.91 | 399.29 |
| E(S)XE(P) | 1001.97 | 40.73 | 120.50 |
| COV(S,P) | 366.86 | 148.18 | 278.79 |
| R(S,P) | 0.630 | 0.738 | 0.747 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 32: 2A GAS

(RECORD COUNT = 33268, OPERATING TIME = 7.98 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 6344. | 26924. | 33268. |
| MEAN | 42.98 | 33.12 | 35.00 |
| MEDIAN | 44.33 | 30.59 | 33.61 |
| STD DEV | 28.57 | 30.04 | 30.01 |
| % ACCEL | 8.82 | 11.62 | 11.08 |
| % CRUISE | 70.98 | 53.23 | 56.64 |
| % DECEL | 8.74 | 10.95 | 10.53 |
| % IDLE | 11.46 | 24.20 | 21.75 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 4462. | 18600. | 23062. |
| TOTAL N | 6336. | 26617. | 32953. |
| MEAN | 47.02 | 37.08 | 39.00 |
| MEDIAN | 43.10 | 27.16 | 30.06 |
| STD DEV | 35.16 | 34.90 | 35.17 |
| % ACCEL | 19.52 | 19.89 | 19.82 |
| % CRUISE | 34.80 | 34.16 | 34.28 |
| % DECEL | 21.70 | 23.03 | 22.77 |
| % MOTOR | 23.97 | 22.92 | 23.12 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 6336. | 26617. | 32953. |
| MEAN | 12.81 | 8.87 | 9.63 |
| MEDIAN | 13.03 | 6.93 | 8.31 |
| STD DEV | 10.34 | 9.19 | 9.55 |
| % ZERO | 19.79 | 28.78 | 27.05 |
| % ACCEL | 8.41 | 12.27 | 11.53 |
| % CRUISE | 58.13 | 42.55 | 45.55 |
| % DECEL | 10.07 | 10.30 | 10.26 |
| % IDLE | 23.39 | 34.88 | 32.67 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 4470. | 18854. | 23324. |
| E(EXP) | 2452.26 | 1686.95 | 1833.61 |
| E(E)XE(P) | 2053.35 | 1202.80 | 1348.48 |
| COV(E,P) | 399.00 | 484.17 | 485.16 |
| R(E,P) | 0.381 | 0.461 | 0.455 |
| ** N | 6344. | 26924. | 33268. |
| E(SXE) | 724.31 | 479.66 | 526.32 |
| E(S)XE(E) | 551.00 | 291.90 | 335.22 |
| COV(S,E) | 173.34 | 187.77 | 191.10 |
| R(S,E) | 0.583 | 0.678 | 0.664 |
| ** N | 4470. | 18854. | 23324. |
| E(SXP) | 645.47 | 426.39 | 468.37 |
| E(S)XE(P) | 586.87 | 306.32 | 353.56 |
| COV(S,P) | 58.61 | 120.07 | 114.82 |
| R(S,P) | 0.158 | 0.383 | 0.345 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 33: 2A GAS

(RECORD COUNT = 15925, OPERATING TIME = 3.82 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 50. | 15875. | 15925. |
| MEAN | 59.08 | 16.46 | 16.59 |
| MEDIAN | 59.54 | 0.98 | 0.99 |
| STD DEV | 2.07 | 20.22 | 20.33 |
| % ACCEL | 2.04 | 8.92 | 8.90 |
| % CRUISE | 95.92 | 31.06 | 31.26 |
| % DECEL | 2.04 | 8.82 | 8.80 |
| % IDLE | 0.0 | 51.21 | 51.05 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 47. | 11576. | 11623. |
| TOTAL N | 49. | 15835. | 15884. |
| MEAN | 47.23 | 16.18 | 16.31 |
| MEDIAN | 49.23 | 4.10 | 4.11 |
| STD DEV | 15.28 | 25.32 | 25.36 |
| % ACCEL | 8.16 | 13.13 | 13.11 |
| % CRUISE | 69.39 | 50.02 | 50.06 |
| % DECEL | 20.41 | 16.17 | 16.18 |
| % MOTOR | 2.04 | 20.69 | 20.63 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 49. | 15835. | 15884. |
| MEAN | 44.69 | 10.34 | 10.45 |
| MEDIAN | 45.70 | 4.28 | 4.34 |
| STD DEV | 3.91 | 11.83 | 11.96 |
| % ZERO | 0.0 | 33.15 | 33.05 |
| % ACCEL | 36.73 | 25.87 | 25.91 |
| % CRUISE | 24.49 | 16.22 | 16.25 |
| % DECEL | 38.78 | 24.31 | 24.35 |
| % IDLE | 0.0 | 33.60 | 33.49 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 48. | 11602. | 11650. |
| E(EXP) | 2794.58 | 551.77 | 561.01 |
| E(E)XE(P) | 2789.69 | 224.56 | 229.38 |
| COV(E,P) | 5.00 | 327.24 | 331.66 |
| R(E,P) | 0.172 | 0.646 | 0.648 |
| ** N | 50. | 15875. | 15925. |
| E(SXE) | 2652.00 | 359.05 | 366.25 |
| E(S)XE(E) | 2646.86 | 170.31 | 173.48 |
| COV(S,E) | 5.24 | 188.76 | 192.78 |
| R(S,E) | 0.549 | 0.785 | 0.788 |
| ** N | 48. | 11602. | 11650. |
| E(SXP) | 2144.58 | 303.17 | 310.76 |
| E(S)XE(P) | 2112.86 | 132.25 | 135.75 |
| COV(S,P) | 32.39 | 170.94 | 175.02 |
| R(S,P) | 0.573 | 0.593 | 0.594 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 35: 2A GAS

(RECORD COUNT = 61801, OPERATING TIME = 14.83 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 11293. | 50508. | 61801. |
| MEAN | 34.75 | 17.23 | 20.43 |
| MEDIAN | 39.28 | 14.46 | 18.30 |
| STD DEV | 22.71 | 16.86 | 19.30 |
| % ACCEL | 4.91 | 10.35 | 9.35 |
| % CRUISE | 74.27 | 43.91 | 49.47 |
| % DECEL | 4.94 | 9.55 | 8.71 |
| % IDLE | 15.89 | 36.19 | 32.47 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 7265. | 32793. | 40058. |
| TOTAL N | 11286. | 50387. | 61673. |
| MEAN | 32.35 | 26.46 | 27.61 |
| MEDIAN | 27.49 | 1.65 | 12.34 |
| STD DEV | 28.95 | 33.14 | 32.51 |
| % ACCEL | 15.74 | 15.20 | 15.30 |
| % CRUISE | 35.15 | 37.67 | 37.21 |
| % DECEL | 18.05 | 18.40 | 18.34 |
| % MOTOR | 31.07 | 28.74 | 29.16 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 11286. | 50387. | 61673. |
| MEAN | 26.88 | 11.35 | 14.19 |
| MEDIAN | 30.25 | 8.48 | 10.17 |
| STD DEV | 17.82 | 10.59 | 13.63 |
| % ZERO | 1.50 | 3.04 | 2.76 |
| % ACCEL | 31.97 | 29.55 | 29.99 |
| % CRUISE | 32.81 | 30.06 | 30.56 |
| % DECEL | 31.33 | 28.81 | 29.27 |
| % IDLE | 3.89 | 11.59 | 10.13 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 7272. | 32898. | 40170. |
| E(EXP) | 1377.38 | 671.86 | 799.58 |
| E(E)XE(P) | 1144.31 | 370.85 | 490.97 |
| COV(E,P) | 233.10 | 301.02 | 308.61 |
| R(E,P) | 0.333 | 0.523 | 0.465 |
| ** N | 11293. | 50508. | 61801. |
| E(SXE) | 1319.74 | 322.53 | 504.75 |
| E(S)XE(E) | 934.92 | 195.04 | 289.44 |
| COV(S,E) | 384.86 | 127.50 | 215.31 |
| R(S,E) | 0.944 | 0.707 | 0.812 |
| ** N | 7272. | 32898. | 40170. |
| E(SXP) | 1059.40 | 382.86 | 505.33 |
| E(S)XE(P) | 897.49 | 253.04 | 352.72 |
| COV(S,P) | 161.93 | 129.83 | 152.62 |
| R(S,P) | 0.301 | 0.352 | 0.323 |

* FREQUENCY USED TO COMPLTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 38: 2A GAS

(RECORD COUNT = 46825. OPERATING TIME = 11.24 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4830. | 41995. | 46825. |
| MEAN | 54.94 | 11.87 | 16.32 |
| MEDIAN | 57.71 | 0.78 | 0.99 |
| STD DEV | 17.69 | 17.73 | 22.04 |
| % ACCEL | 6.96 | 9.66 | 9.38 |
| % CRUISE | 84.62 | 25.12 | 31.27 |
| % DECEL | 6.88 | 9.09 | 8.86 |
| % IDLE | 1.53 | 56.13 | 50.49 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 4500. | 35885. | 40385. |
| TOTAL N | 4825. | 41842. | 46667. |
| MEAN | 62.25 | 20.00 | 24.71 |
| MEDIAN | 64.20 | 4.22 | 9.74 |
| STD DEV | 24.31 | 30.31 | 32.55 |
| % ACCEL | 14.03 | 12.65 | 12.79 |
| % CRUISE | 64.87 | 61.27 | 61.64 |
| % DECEL | 15.40 | 15.18 | 15.20 |
| % MOTOR | 5.70 | 10.91 | 10.37 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4825. | 41842. | 46667. |
| MEAN | 41.99 | 7.26 | 10.85 |
| MEDIAN | 44.05 | 2.92 | 4.49 |
| STD DEV | 9.37 | 9.07 | 13.95 |
| % ZERO | 0.12 | 41.10 | 36.86 |
| % ACCEL | 12.66 | 19.92 | 19.17 |
| % CRUISE | 79.03 | 21.36 | 27.32 |
| % DECEL | 8.25 | 17.68 | 16.70 |
| % IDLE | 0.06 | 41.04 | 36.81 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 4505. | 36025. | 40530. |
| E(EXP) | 3422.18 | 516.03 | 839.05 |
| E(E)XE(P) | 3475.72 | 203.90 | 376.92 |
| COV(E,P) | -53.55 | 312.14 | 462.14 |
| R(E,P) | -0.131 | 0.602 | 0.637 |
| ** N | 4830. | 41995. | 46825. |
| E(SXE) | 2465.30 | 199.00 | 432.77 |
| E(S)XE(E) | 2308.38 | 85.95 | 176.63 |
| COV(S,E) | 156.96 | 113.05 | 256.14 |
| R(S,E) | 0.932 | 0.698 | 0.828 |
| ** N | 4505. | 36025. | 40530. |
| E(SXP) | 2628.39 | 283.89 | 544.48 |
| E(S)XE(P) | 2643.94 | 122.03 | 250.39 |
| COV(S,P) | -15.55 | 161.86 | 294.10 |
| R(S,P) | -0.073 | 0.603 | 0.625 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 44: 2A GAS

(RECORD COUNT = 14464, OPERATING TIME = 3.47 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 14464. | 14464. |
| MEAN | | 12.14 | 12.14 |
| MEDIAN | | 6.42 | 6.42 |
| STD DEV | | 14.66 | 14.66 |
| % ACCEL | | 9.29 | 9.29 |
| % CRUISE | | 39.11 | 39.11 |
| % DECEL | | 9.58 | 9.58 |
| % IDLE | | 42.02 | 42.02 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 5551. | 5551. |
| TOTAL N | 0. | 14408. | 14408. |
| MEAN | | 29.97 | 29.97 |
| MEDIAN | | 16.04 | 16.04 |
| STD DEV | | 33.75 | 33.75 |
| % ACCEL | | 13.26 | 13.26 |
| % CRUISE | | 18.88 | 18.88 |
| % DECEL | | 13.42 | 13.42 |
| % MOTOR | | 54.43 | 54.43 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 14408. | 14408. |
| MEAN | | 6.14 | 6.14 |
| MEDIAN | | 0.94 | 0.94 |
| STD DEV | | 8.32 | 8.32 |
| % ZERO | | 38.51 | 38.51 |
| % ACCEL | | 17.45 | 17.45 |
| % CRUISE | | 16.84 | 16.84 |
| % DECEL | | 14.66 | 14.66 |
| % IDLE | | 51.05 | 51.05 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 5579. | 5579. |
| E(EXP) | | 1032.97 | 1032.97 |
| E(E)XE(P) | | 563.44 | 563.44 |
| COV(E,P) | | 469.61 | 469.61 |
| R(E,P) | | 0.786 | 0.786 |
| ** N | 0. | 14464. | 14464. |
| E(SXE) | | 148.81 | 148.81 |
| E(S)XE(E) | | 75.82 | 75.82 |
| COV(S,E) | | 73.00 | 73.00 |
| R(S,E) | | 0.595 | 0.595 |
| ** N | 0. | 5579. | 5579. |
| E(SXP) | | 372.11 | 372.11 |
| E(S)XE(P) | | 242.52 | 242.52 |
| COV(S,P) | | 129.62 | 129.62 |
| R(S,P) | | 0.457 | 0.457 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 45: 2A GAS

(RECORD COUNT = 37597, OPERATING TIME = 9.02 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 986. | 36611. | 37597. |
| MEAN | 29.86 | 24.04 | 24.19 |
| MEDIAN | 32.21 | 16.40 | 17.01 |
| STD DEV | 24.67 | 26.93 | 26.89 |
| % ACCEL | 12.44 | 14.93 | 14.86 |
| % CRUISE | 48.32 | 33.52 | 33.91 |
| % DECEL | 11.72 | 14.24 | 14.17 |
| % IDLE | 27.52 | 37.31 | 37.05 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 760. | 28509. | 29269. |
| TOTAL N | 981. | 36446. | 37427. |
| MEAN | 55.58 | 28.30 | 29.01 |
| MEDIAN | 74.58 | 12.23 | 12.84 |
| STD DEV | 42.20 | 33.46 | 33.99 |
| % ACCEL | 20.18 | 19.25 | 19.27 |
| % CRUISE | 48.11 | 45.48 | 45.55 |
| % DECEL | 16.72 | 19.82 | 19.74 |
| % MOTOR | 14.98 | 15.45 | 15.44 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 981. | 36446. | 37427. |
| MEAN | 11.59 | 7.87 | 7.97 |
| MEDIAN | 12.39 | 6.67 | 6.83 |
| STD DEV | 8.10 | 7.64 | 7.68 |
| % ZERO | 17.74 | 29.02 | 28.72 |
| % ACCEL | 26.40 | 24.29 | 24.34 |
| % CRUISE | 30.78 | 22.21 | 22.44 |
| % DECEL | 24.57 | 23.62 | 23.64 |
| % IDLE | 18.25 | 29.89 | 29.58 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 764. | 28643. | 29407. |
| E(EXP) | 2411.15 | 1133.03 | 1166.23 |
| E(E)XE(P) | 1689.58 | 628.04 | 649.96 |
| COV(E,P) | 722.52 | 505.00 | 516.29 |
| R(E,P) | 0.689 | 0.560 | 0.564 |
| ** N | 986. | 36611. | 37597. |
| E(SXE) | 479.09 | 322.87 | 326.97 |
| E(S)XE(E) | 346.13 | 189.23 | 192.79 |
| COV(S,E) | 133.10 | 133.64 | 134.17 |
| R(S,E) | 0.666 | 0.646 | 0.647 |
| ** N | 764. | 28643. | 29407. |
| E(SXP) | 869.14 | 330.49 | 344.49 |
| E(S)XE(P) | 632.02 | 199.39 | 207.65 |
| COV(S,P) | 237.42 | 131.11 | 136.85 |
| R(S,P) | 0.693 | 0.518 | 0.529 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 48: 2A GAS

(RECORD COUNT = 18396, OPERATING TIME = 4.42 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 727. | 17669. | 18396. |
| MEAN | 60.91 | 17.89 | 19.59 |
| MEDIAN | 64.52 | 11.60 | 13.59 |
| STD DEV | 12.77 | 19.23 | 20.73 |
| % ACCEL | 7.31 | 11.06 | 10.92 |
| % CRUISE | 83.40 | 37.02 | 38.83 |
| % DECEL | 9.28 | 11.89 | 11.79 |
| % IDLE | 0.0 | 40.C2 | 38.46 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 332. | 11343. | 11675. |
| TOTAL N | 711. | 17537. | 18248. |
| MEAN | 41.69 | 18.37 | 19.03 |
| MEDIAN | 29.12 | 9.92 | 5.34 |
| STD DEV | 31.15 | 27.12 | 27.52 |
| % ACCEL | 22.93 | 16.22 | 16.48 |
| % CRUISE | 10.83 | 40.04 | 38.90 |
| % DECEL | 20.96 | 14.38 | 14.04 |
| % MOTOR | 45.29 | 29.37 | 29.99 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 711. | 17537. | 18248. |
| MEAN | 44.22 | 10.94 | 12.23 |
| MEDIAN | 46.73 | 9.16 | 10.05 |
| STD DEV | 8.91 | 10.75 | 12.48 |
| % ZERO | 0.0 | 10.16 | 9.76 |
| % ACCEL | 12.10 | 23.69 | 23.24 |
| % CRUISE | 66.10 | 21.09 | 22.85 |
| % DECEL | 21.80 | 23.93 | 23.85 |
| % IDLE | 0.0 | 31.29 | 30.07 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 346. | 11424. | 11770. |
| E(EXP) | 2777.11 | 683.64 | 745.18 |
| E(E)XE(P) | 2819.98 | 304.70 | 344.41 |
| COV(E,P) | -43.00 | 378.98 | 400.81 |
| R(E,P) | -0.145 | 0.709 | 0.686 |
| ** N | 727. | 17669. | 18396. |
| E(SXE) | 2778.93 | 365.70 | 401.07 |
| E(S)XE(E) | 2690.88 | 195.04 | 239.30 |
| COV(S,E) | 88.17 | 170.66 | 221.78 |
| R(S,E) | 0.758 | 0.814 | 0.844 |
| ** N | 346. | 11424. | 11770. |
| E(SXP) | 1867.40 | 308.12 | 353.95 |
| E(S)XE(P) | 1942.47 | 158.07 | 185.01 |
| COV(S,P) | -75.29 | 150.06 | 168.96 |
| R(S,P) | -0.273 | 0.528 | 0.504 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 49: 2A GAS

(RECORD COUNT = 20004, OPERATING TIME = 4.80 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4125. | 15879. | 20004. |
| MEAN | 44.55 | 17.32 | 22.94 |
| MEDIAN | 49.77 | 13.76 | 19.65 |
| STD DEV | 21.81 | 18.34 | 22.05 |
| % ACCEL | 7.65 | 8.91 | 8.65 |
| % CRUISE | 78.30 | 43.87 | 50.97 |
| % DECEL | 7.48 | 8.54 | 8.32 |
| % IDLE | 6.58 | 38.68 | 32.06 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4120. | 15857. | 19977. |
| MEAN | 26.02 | 7.99 | 11.71 |
| MEDIAN | 31.28 | 7.48 | 9.71 |
| STD DEV | 13.22 | 7.15 | 11.40 |
| % ZERO | 3.23 | 26.87 | 22.00 |
| % ACCEL | 19.85 | 16.71 | 17.36 |
| % CRUISE | 61.04 | 40.75 | 44.94 |
| % DECEL | 15.70 | 13.45 | 13.92 |
| % IDLE | 3.40 | 29.08 | 23.79 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 2623. | 10203. | 12826. |
| TOTAL N | 4120. | 15857. | 19977. |
| MEAN | 40.61 | 14.67 | 19.97 |
| MEDIAN | 25.46 | 9.45 | 6.25 |
| STD DEV | 36.60 | 25.03 | 29.69 |
| % ACCEL | 14.81 | 13.35 | 13.65 |
| % CRUISE | 36.29 | 42.18 | 40.96 |
| % DECEL | 17.28 | 14.87 | 15.37 |
| % MOTOR | 31.63 | 29.60 | 30.02 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 2627. | 10219. | 12846. |
| E(EXP) | 2189.55 | 385.72 | 754.60 |
| E(E)XE(P) | 1924.94 | 202.99 | 413.53 |
| COV(E,P) | 264.71 | 182.75 | 341.10 |
| R(E,P) | 0.323 | 0.391 | 0.484 |
| ** N | 4125. | 15879. | 20004. |
| E(SXE) | 1400.14 | 235.21 | 475.42 |
| E(S)XE(E) | 1155.31 | 138.27 | 268.03 |
| COV(S,E) | 244.89 | 96.94 | 207.40 |
| R(S,E) | 0.846 | 0.733 | 0.822 |
| ** N | 2627. | 10219. | 12846. |
| E(SXP) | 1272.37 | 178.99 | 402.59 |
| E(S)XE(P) | 1119.94 | 92.01 | 212.35 |
| COV(S,P) | 152.49 | 86.99 | 190.25 |
| R(S,P) | 0.309 | 0.480 | 0.518 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 50: 2A GAS

(RECORD COUNT = 143884, OPERATING TIME = 34.53 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8618. | 135266. | 143884. |
| MEAN | 64.46 | 10.34 | 13.59 |
| MEDIAN | 71.44 | 0.47 | 0.57 |
| STD DEV | 27.31 | 18.34 | 22.93 |
| % ACCEL | 6.32 | 6.37 | 6.37 |
| % CRUISE | 80.14 | 19.44 | 23.05 |
| % DECEL | 6.62 | 5.81 | 5.86 |
| % IDLE | 6.92 | 68.38 | 64.72 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 6528. | 109224. | 115752. |
| TOTAL N | 8539. | 134965. | 143504. |
| MEAN | 52.79 | 15.67 | 17.76 |
| MEDIAN | 58.05 | 3.98 | 4.18 |
| STD DEV | 32.85 | 28.24 | 29.78 |
| % ACCEL | 17.91 | 15.41 | 15.55 |
| % CRUISE | 43.03 | 55.80 | 55.04 |
| % DECEL | 18.62 | 15.35 | 15.55 |
| % MOTOR | 20.45 | 13.44 | 13.85 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8539. | 134965. | 143504. |
| MEAN | 35.63 | 5.67 | 7.45 |
| MEDIAN | 39.89 | 0.88 | 0.93 |
| STD DEV | 14.13 | 8.90 | 11.69 |
| % ZERO | 2.67 | 35.09 | 33.16 |
| % ACCEL | 25.87 | 12.82 | 13.60 |
| % CRUISE | 44.12 | 21.48 | 22.83 |
| % DECEL | 26.41 | 11.09 | 12.00 |
| % IDLE | 3.61 | 54.61 | 51.58 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 6595. | 109443. | 116038. |
| E(EXP) | 3648.63 | 533.49 | 710.54 |
| E(E)XE(P) | 3441.84 | 142.57 | 218.60 |
| COV(E,P) | 206.83 | 390.92 | 491.94 |
| R(E,P) | 0.227 | 0.782 | 0.732 |
| ** N | 8618. | 135266. | 143884. |
| E(SXE) | 2664.49 | 197.64 | 345.39 |
| E(S)XE(E) | 2300.35 | 59.49 | 102.49 |
| COV(S,E) | 364.18 | 138.15 | 242.90 |
| R(S,E) | 0.941 | 0.844 | 0.903 |
| ** N | 6595. | 109443. | 116038. |
| E(SXP) | 1980.71 | 238.43 | 337.45 |
| E(S)XE(P) | 1891.90 | 74.74 | 116.29 |
| COV(S,P) | 88.82 | 163.69 | 221.17 |
| R(S,P) | 0.185 | 0.683 | 0.646 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 51: 2A GAS

(RECORD COUNT = 9989, OPERATING TIME = 2.40 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1383. | 8606. | 9989. |
| MEAN | 30.64 | 16.08 | 18.09 |
| MEDIAN | 32.30 | 11.60 | 13.39 |
| STD DEV | 24.79 | 18.25 | 19.93 |
| % ACCEL | 10.57 | 11.22 | 11.13 |
| % CRUISE | 52.35 | 38.08 | 40.05 |
| % DECEL | 10.86 | 10.31 | 10.38 |
| % IDLE | 26.21 | 40.39 | 38.43 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 931. | 6443. | 7374. |
| TOTAL N | 1381. | 8588. | 9969. |
| MEAN | 41.61 | 28.66 | 30.29 |
| MEDIAN | 31.17 | 5.26 | 7.48 |
| STD DEV | 40.46 | 36.55 | 37.31 |
| % ACCEL | 19.99 | 19.75 | 19.78 |
| % CRUISE | 35.99 | 44.36 | 43.20 |
| % DECEL | 19.41 | 17.78 | 18.01 |
| % MOTOR | 24.62 | 18.11 | 19.01 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1381. | 8588. | 9969. |
| MEAN | 22.39 | 11.47 | 12.98 |
| MEDIAN | 19.95 | 9.02 | 10.24 |
| STD DEV | 17.93 | 11.69 | 13.28 |
| % ZERO | 16.58 | 28.97 | 27.25 |
| % ACCEL | 28.46 | 27.17 | 27.34 |
| % CRUISE | 29.83 | 20.53 | 21.82 |
| % DECEL | 25.71 | 23.74 | 24.01 |
| % IDLE | 16.00 | 28.56 | 26.82 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 933. | 6460. | 7393. |
| E(EXP) | 1835.28 | 837.66 | 963.56 |
| E(E)XE(P) | 1194.35 | 396.68 | 470.19 |
| COV(E,P) | 641.62 | 441.05 | 487.43 |
| R(E,P) | 0.604 | 0.663 | 0.652 |
| ** N | 1383. | 8606. | 9989. |
| E(SXE) | 1080.68 | 346.42 | 446.08 |
| E(S)XE(E) | 684.97 | 183.91 | 234.31 |
| COV(S,E) | 395.99 | 162.53 | 213.78 |
| R(S,E) | 0.888 | 0.754 | 0.801 |
| ** N | 933. | 6460. | 7393. |
| E(SXP) | 1225.47 | 538.51 | 625.20 |
| E(S)XE(P) | 831.16 | 268.98 | 324.85 |
| COV(S,P) | 394.73 | 269.57 | 300.39 |
| R(S,P). | 0.518 | 0.654 | 0.621 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 61: 2A GAS

(RECORD COUNT = 29711, OPERATING TIME = 7.13 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3492. | 26219. | 29711. |
| MEAN | 41.16 | 19.75 | 22.26 |
| MEDIAN | 39.58 | 14.28 | 17.25 |
| STD DEV | 28.74 | 21.59 | 23.58 |
| % ACCEL | 8.07 | 9.49 | 9.32 |
| % CRUISE | 71.60 | 43.09 | 46.44 |
| % DECEL | 7.81 | 9.06 | 8.91 |
| % IDLE | 12.52 | 38.36 | 35.33 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 2558. | 21416. | 23974. |
| TOTAL N | 3482. | 26164. | 29646. |
| MEAN | 38.98 | 23.11 | 24.81 |
| MEDIAN | 28.31 | 11.95 | 13.76 |
| STD DEV | 33.27 | 27.93 | 28.96 |
| % ACCEL | 14.86 | 16.30 | 16.13 |
| % CRUISE | 42.48 | 50.35 | 49.43 |
| % DECEL | 19.16 | 19.16 | 19.16 |
| % MOTOR | 23.49 | 14.19 | 15.28 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3482. | 26164. | 29646. |
| MEAN | 17.36 | 8.98 | 9.97 |
| MEDIAN | 15.91 | 8.91 | 10.23 |
| STD DEV | 8.69 | 8.13 | 8.63 |
| % ZERO | 4.45 | 31.64 | 28.45 |
| % ACCEL | 8.76 | 10.43 | 10.23 |
| % CRUISE | 79.78 | 49.54 | 53.09 |
| % DECEL | 7.04 | 8.00 | 7.89 |
| % IDLE | 4.42 | 32.03 | 28.79 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 2567. | 21468. | 24035. |
| E(EXP) | 2091.23 | 748.16 | 891.59 |
| E(E)XE(P) | 1563.93 | 413.70 | 502.93 |
| COV(E,P) | 527.50 | 334.47 | 388.68 |
| R(E,P) | 0.538 | 0.557 | 0.571 |
| ** N | 3492. | 26219. | 29711. |
| E(SXE) | 897.12 | 319.12 | 387.06 |
| E(S)XE(E) | 710.53 | 177.43 | 221.69 |
| COV(S,E) | 186.64 | 141.70 | 165.37 |
| R(S,E) | 0.745 | 0.804 | 0.810 |
| ** N | 2567. | 21468. | 24035. |
| E(SXP) | 772.40 | 310.89 | 360.18 |
| E(S)XE(P) | 643.92 | 184.85 | 220.99 |
| COV(S,P) | 128.52 | 126.04 | 139.20 |
| R(S,P) | 0.428 | 0.560 | 0.560 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 35: 3A GAS

(RECORD COUNT = 64888, OPERATING TIME = 15.57 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 19056. | 45832. | 64888. |
| MEAN | 76.70 | 38.83 | 49.96 |
| MEDIAN | 80.50 | 38.18 | 68.54 |
| STD DEV | 12.99 | 36.22 | 35.69 |
| % ACCEL | 7.11 | 15.34 | 12.97 |
| % CRUISE | 84.69 | 32.24 | 47.38 |
| % DECEL | 7.25 | 15.63 | 13.21 |
| % IDLE | 0.95 | 36.79 | 26.44 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 16249. | 33602. | 49851. |
| TOTAL N | 18445. | 45462. | 63907. |
| MEAN | 54.33 | 23.62 | 33.63 |
| MEDIAN | 52.57 | 4.85 | 25.46 |
| STD DEV | 27.91 | 32.18 | 34.04 |
| % ACCEL | 29.46 | 16.13 | 19.98 |
| % CRUISE | 32.48 | 44.47 | 41.01 |
| % DECEL | 29.37 | 19.14 | 22.10 |
| % MOTOR | 8.69 | 20.25 | 16.92 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 18445. | 45462. | 63907. |
| MEAN | 45.67 | 12.37 | 21.98 |
| MEDIAN | 49.41 | 7.98 | 18.33 |
| STD DEV | 11.91 | 13.50 | 19.96 |
| % ZERO | 0.61 | 34.68 | 24.85 |
| % ACCEL | 13.74 | 22.29 | 19.82 |
| % CRUISE | 75.06 | 22.16 | 37.43 |
| % DECEL | 10.59 | 20.13 | 17.38 |
| % IDLE | 0.61 | 35.42 | 25.37 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 16785. | 33872. | 50657. |
| E(EXP) | 4337.00 | 1631.58 | 2528.02 |
| E(E)XE(P) | 4239.31 | 812.34 | 1650.93 |
| COV(E,P) | 97.70 | 819.26 | 877.10 |
| R(E,P) | 0.299 | 0.678 | 0.686 |
| ** N | 19056. | 45832. | 64888. |
| E(SXE) | 3584.18 | 898.56 | 1687.26 |
| E(S)XE(E) | 3501.39 | 483.72 | 1109.65 |
| COV(S,E) | 82.79 | 414.86 | 577.63 |
| R(S,E) | 0.531 | 0.845 | 0.808 |
| ** N | 16785. | 33872. | 50657. |
| E(SXP) | 2573.94 | 527.13 | 1205.33 |
| E(S)XE(P) | 2549.51 | 253.54 | 768.57 |
| COV(S,P) | 24.43 | 273.59 | 436.77 |
| R(S,P) | 0.079 | 0.618 | 0.599 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY .
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 59: 3A GAS

(RECORD COUNT = 38179, OPERATING TIME = 9.16 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3901. | 34278. | 38179. |
| MEAN | 49.14 | 17.03 | 20.31 |
| MEDIAN | 52.09 | 0.89 | 4.98 |
| STD DEV | 19.38 | 22.62 | 24.34 |
| % ACCEL | 4.93 | 6.88 | 6.69 |
| % CRUISE | 83.34 | 32.74 | 37.84 |
| % DECEL | 5.63 | 6.91 | 6.78 |
| % IDLE | 6.10 | 53.48 | 48.70 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 2899. | 28158. | 31057. |
| TOTAL N | 3835. | 34189. | 38024. |
| MEAN | 74.37 | 28.39 | 32.68 |
| MEDIAN | 86.77 | 4.35 | 4.75 |
| STD DEV | 30.81 | 38.30 | 39.97 |
| % ACCEL | 18.93 | 14.21 | 14.69 |
| % CRUISE | 44.20 | 60.89 | 59.20 |
| % DECEL | 17.26 | 12.71 | 13.17 |
| % MOTOR | 19.61 | 12.19 | 12.94 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3835. | 34189. | 38024. |
| MEAN | 36.60 | 10.41 | 13.05 |
| MEDIAN | 39.43 | 3.55 | 4.51 |
| STD DEV | 13.25 | 13.66 | 15.74 |
| % ZERO | 4.51 | 43.72 | 39.76 |
| % ACCEL | 34.47 | 17.26 | 19.00 |
| % CRUISE | 32.02 | 23.93 | 24.74 |
| % DECEL | 28.94 | 14.60 | 16.05 |
| % IDLE | 4.56 | 44.21 | 40.21 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 2964. | 28239. | 31203. |
| E(EXP) | 3980.75 | 1115.05 | 1387.27 |
| E(E)XE(P) | 3735.27 | 452.11 | 628.37 |
| COV(E,P) | 245.56 | 662.97 | 758.92 |
| R(E,P) | 0.419 | 0.764 | 0.775 |
| ** N | 3901. | 34278. | 38179. |
| E(SXE) | 2015.04 | 422.47 | 585.19 |
| E(S)XE(E) | 1799.15 | 178.66 | 267.34 |
| COV(S,E) | 215.94 | 243.81 | 317.85 |
| R(S,E) | 0.836 | 0.782 | 0.823 |
| ** N | 2964. | 28239. | 31203. |
| E(SXP) | 2925.24 | 688.82 | 901.25 |
| E(S)XE(P) | 2767.60 | 280.23 | 408.40 |
| COV(S,P) | 157.69 | 408.60 | 492.87 |
| R(S,P) | 0.393 | 0.766 | 0.770 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 2: TT GAS

(RECORD COUNT = 37630, OPERATING TIME = 9.03 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 5395. | 32235. | 37630. |
| MEAN | 52.06 | 30.74 | 33.79 |
| MEDIAN | 58.12 | 34.35 | 39.52 |
| STD DEV | 20.33 | 25.84 | 26.21 |
| % ACCEL | 4.39 | 13.49 | 12.19 |
| % CRUISE | 83.68 | 45.38 | 50.87 |
| % DECEL | 4.52 | 12.17 | 11.07 |
| % IDLE | 7.42 | 28.96 | 25.87 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 5379. | 32109. | 37488. |
| MEAN | 39.38 | 15.04 | 18.53 |
| MEDIAN | 44.59 | 11.46 | 15.37 |
| STD DEV | 16.16 | 14.48 | 17.03 |
| % ZERO | 6.40 | 28.27 | 25.13 |
| % ACCEL | 15.45 | 26.20 | 24.66 |
| % CRUISE | 66.52 | 27.03 | 32.70 |
| % DECEL | 11.77 | 18.79 | 17.78 |
| % IDLE | 6.27 | 27.98 | 24.86 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 4807. | 24694. | 29501. |
| TOTAL N | 5379. | 32109. | 37488. |
| MEAN | 72.18 | 37.76 | 43.37 |
| MEDIAN | 85.39 | 25.20 | 37.36 |
| STD DEV | 31.84 | 37.75 | 38.99 |
| % ACCEL | 14.02 | 18.28 | 17.67 |
| % CRUISE | 62.47 | 44.42 | 47.01 |
| % DECEL | 14.91 | 19.71 | 19.02 |
| % MOTOR | 8.61 | 17.59 | 16.30 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 4820. | 24783. | 29603. |
| E(EXP) | 4255.67 | 1888.27 | 2273.73 |
| E(E)XE(P) | 3843.90 | 1145.04 | 1476.93 |
| COV(E,P) | 411.86 | 743.26 | 796.83 |
| R(E,P) | 0.642 | 0.728 | 0.746 |
| ** N | 5395. | 32235. | 37630. |
| E(SXE) | 2339.05 | 756.49 | 983.38 |
| E(S)XE(E) | 2048.21 | 461.28 | 625.00 |
| COV(S,E) | 290.89 | 295.22 | 358.40 |
| R(S,E) | 0.879 | 0.784 | 0.799 |
| ** N | 4820. | 24783. | 29603. |
| E(SXP) | 3229.48 | 945.67 | 1318.36 |
| E(S)XE(P) | 2894.92 | 549.50 | 811.38 |
| COV(S,P) | 334.63 | 397.19 | 506.99 |
| R(S,P) | 0.646 | 0.699 | 0.725 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 3: TT GAS

(RECORD COUNT = 43567, OPERATING TIME = 10.46 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14077. | 29490. | 43567. |
| MEAN | 64.55 | 34.38 | 44.13 |
| MEDIAN | 67.47 | 37.67 | 52.27 |
| STD DEV | 14.06 | 26.54 | 27.20 |
| % ACCEL | 3.43 | 12.16 | 9.34 |
| % CRUISE | 92.18 | 51.32 | 64.53 |
| % DECEL | 3.36 | 10.70 | 8.33 |
| % IDLE | 1.03 | 25.81 | 17.80 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 12773. | 22728. | 35501. |
| TOTAL N | 14063. | 29440. | 43503. |
| MEAN | 45.08 | 35.11 | 45.89 |
| MEDIAN | 68.16 | 28.03 | 46.58 |
| STD DEV | 26.89 | 33.54 | 34.46 |
| % ACCEL | 19.95 | 18.46 | 18.94 |
| % CRUISE | 52.88 | 42.92 | 46.14 |
| % DECEL | 20.03 | 21.02 | 20.70 |
| % MOTOR | 7.13 | 17.60 | 14.21 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14063. | 29440. | 43503. |
| MEAN | 45.15 | 16.14 | 25.52 |
| MEDIAN | 49.00 | 15.22 | 23.88 |
| STD DEV | 11.60 | 13.62 | 18.79 |
| % ZERO | 0.36 | 20.76 | 14.17 |
| % ACCEL | 27.05 | 28.85 | 28.26 |
| % CRUISE | 50.45 | 26.73 | 34.40 |
| % DECEL | 22.16 | 23.96 | 23.38 |
| % IDLE | 0.34 | 20.46 | 13.96 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 12787. | 22766. | 35553. |
| E(EXP) | 4373.67 | 1821.27 | 2739.26 |
| E(E)XE(P) | 4299.06 | 1193.49 | 2089.08 |
| COV(E,P) | 74.62 | 627.80 | 650.20 |
| R(E,P) | 0.220 | 0.669 | 0.669 |
| ** N | 14077. | 29490. | 43567. |
| E(SXE) | 3073.77 | 853.98 | 1571.22 |
| E(S)XE(E) | 2930.45 | 554.49 | 1128.40 |
| COV(S,E) | 143.33 | 299.51 | 442.83 |
| R(S,E) | 0.848 | 0.824 | 0.858 |
| ** N | 12787. | 22766. | 35553. |
| E(SXP) | 3066.94 | 816.97 | 1626.19 |
| E(S)XE(P) | 3008.33 | 552.73 | 1225.31 |
| COV(S,P) | 58.61 | 264.25 | 400.89 |
| R(S,P) | 0.203 | 0.542 | 0.589 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 8: TT G4S

(RECORD COUNT = 65439, OPERATING TIME = 15.71 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 25067. | 40372. | 65439. |
| MEAN | 74.57 | 42.58 | 54.83 |
| MEDIAN | 81.46 | 43.96 | 71.87 |
| STD DEV | 28.39 | 38.11 | 38.04 |
| % ACCEL | 8.27 | 12.35 | 10.79 |
| % CRUISE | 76.31 | 45.23 | 57.14 |
| % DECEL | 8.17 | 10.96 | 9.89 |
| % IDLE | 7.25 | 31.46 | 22.18 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 20125. | 31107. | 51232. |
| TOTAL N | 25019. | 40277. | 65296. |
| MEAN | 62.70 | 20.76 | 37.23 |
| MEDIAN | 76.11 | 7.09 | 24.26 |
| STD DEV | 36.03 | 28.39 | 37.67 |
| % ACCEL | 24.13 | 17.69 | 20.16 |
| % CRUISE | 37.12 | 45.74 | 42.44 |
| % DECEL | 24.35 | 19.17 | 21.16 |
| % MOTOR | 14.39 | 17.39 | 16.24 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 25019. | 40277. | 65296. |
| MEAN | 33.50 | 11.18 | 19.73 |
| MEDIAN | 39.66 | 7.64 | 14.93 |
| STD DEV | 16.99 | 12.42 | 17.99 |
| % ZERO | 4.48 | 28.07 | 19.03 |
| % ACCEL | 15.38 | 16.33 | 15.97 |
| % CRUISE | 67.07 | 42.37 | 51.83 |
| % DECEL | 12.81 | 13.04 | 12.95 |
| % IDLE | 4.74 | 28.26 | 19.25 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 20170. | 31194. | 51364. |
| E(EXP) | 5413.09 | 1508.24 | 3041.63 |
| E(E)XE(P) | 4792.11 | 788.69 | 1970.51 |
| COV(E,P) | 621.00 | 719.57 | 1065.14 |
| R(E,P) | 0.599 | 0.641 | 0.701 |
| ** N | 25067. | 40372. | 65439. |
| E(SXE) | 2838.53 | 854.50 | 1614.50 |
| E(S)XE(E) | 2495.78 | 476.43 | 1081.90 |
| COV(S,E) | 342.77 | 378.07 | 532.61 |
| R(S,E) | 0.708 | 0.798 | 0.778 |
| ** N | 20170. | 31194. | 51364. |
| E(SXP) | 2605.05 | 469.61 | 1308.17 |
| E(S)XE(P) | 2229.58 | 208.30 | 746.70 |
| COV(S,P) | 375.49 | 261.31 | 561.48 |
| R(S,P) | 0.616 | 0.710 | 0.775 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 12: TT GAS

(RECORD COUNT = 83179, OPERATING TIME = 19.96 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 55862. | 27317. | 83179. |
| MEAN | 78.32 | 30.36 | 62.57 |
| MEDIAN | 82.46 | 16.95 | 74.79 |
| STD DEV | 24.27 | 33.62 | 35.70 |
| % ACCEL | 13.29 | 16.03 | 14.18 |
| % CRUISE | 70.63 | 30.16 | 57.35 |
| % DECEL | 12.62 | 13.31 | 12.85 |
| % IDLE | 3.46 | 40.51 | 15.61 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 47860. | 22407. | 70267. |
| TOTAL N | 55798. | 27242. | 83040. |
| MEAN | 59.89 | 25.31 | 48.86 |
| MEDIAN | 67.00 | 10.61 | 47.62 |
| STD DEV | 33.42 | 31.65 | 36.61 |
| % ACCEL | 24.68 | 18.10 | 22.52 |
| % CRUISE | 40.18 | 51.68 | 43.95 |
| % DECEL | 24.19 | 16.66 | 21.72 |
| % MOTOR | 10.95 | 13.56 | 11.81 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 55798. | 27242. | 83040. |
| MEAN | 47.75 | 13.17 | 36.40 |
| MEDIAN | 52.00 | 9.70 | 46.82 |
| STD DEV | 13.85 | 13.84 | 21.34 |
| % ZERO | 0.91 | 33.35 | 11.55 |
| % ACCEL | 12.03 | 22.18 | 15.36 |
| % CRUISE | 78.91 | 26.84 | 61.83 |
| % DECEL | 8.07 | 16.53 | 10.85 |
| % IDLE | 0.98 | 34.45 | 11.96 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 47904. | 22471. | 70375. |
| E(EXP) | 5005.96 | 1393.15 | 3852.37 |
| E(E)XE(P) | 4752.62 | 682.09 | 3059.00 |
| COV(E,P) | 253.35 | 711.08 | 793.37 |
| R(E,P) | 0.323 | 0.668 | 0.594 |
| ** N | 55862. | 27317. | 83179. |
| E(SXE) | 3991.38 | 785.56 | 2938.55 |
| E(S)XE(E) | 3738.13 | 399.51 | 2275.98 |
| COV(S,E) | 253.25 | 386.07 | 662.58 |
| R(S,E) | 0.747 | 0.827 | 0.867 |
| ** N | 47904. | 22471. | 70375. |
| E(SXP) | 3023.81 | 546.76 | 2232.88 |
| E(S)XE(P) | 2897.98 | 281.37 | 1782.36 |
| COV(S,P) | 125.84 | 265.40 | 450.53 |
| R(S,P) | 0.278 | 0.618 | 0.558 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 39: TT GAS

(RECORD COUNT = 85133, OPERATING TIME = 20.43 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 55831. | 29302. | 85133. |
| MEAN | 85.41 | 34.78 | 67.58 |
| MEDIAN | 88.06 | 28.83 | 82.36 |
| STD DEV | 16.05 | 34.47 | 34.01 |
| % ACCEL | 13.24 | 14.54 | 13.69 |
| % CRUISE | 72.85 | 39.95 | 61.53 |
| % DECEL | 12.97 | 12.75 | 12.89 |
| % IDLE | 0.94 | 32.77 | 11.90 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 50842. | 23407. | 74249. |
| TOTAL N | 55727. | 29253. | 84980. |
| MEAN | 75.91 | 35.13 | 63.06 |
| MEDIAN | 90.30 | 14.24 | 79.90 |
| STD DEV | 30.66 | 40.04 | 38.83 |
| % ACCEL | 13.77 | 15.11 | 14.23 |
| % CRUISE | 66.13 | 55.96 | 62.63 |
| % DECEL | 12.82 | 12.96 | 12.87 |
| % MOTOR | 7.28 | 15.98 | 10.27 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 55727. | 29253. | 84980. |
| MEAN | 47.71 | 13.93 | 36.08 |
| MEDIAN | 50.65 | 9.87 | 45.18 |
| STD DEV | 9.95 | 14.63 | 19.90 |
| % ZERO | 0.27 | 35.43 | 12.37 |
| % ACCEL | 18.73 | 22.24 | 19.94 |
| % CRUISE | 66.86 | 22.62 | 51.63 |
| % DECEL | 14.13 | 18.91 | 15.77 |
| % IDLE | 0.29 | 36.23 | 12.66 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 50935. | 23453. | 74388. |
| E(EXP) | 6575.82 | 2153.60 | 5181.58 |
| E(F)XE(P) | 6532.12 | 1164.66 | 4374.11 |
| COV(E,P) | 43.71 | 988.99 | 807.49 |
| R(E,P) | 0.095 | 0.704 | 0.615 |
| ** N | 55831. | 29302. | 85133. |
| E(SXE) | 4188.65 | 901.19 | 3057.14 |
| E(S)XE(E) | 4071.04 | 483.82 | 2450.59 |
| COV(S,E) | 117.61 | 417.38 | 606.55 |
| R(S,E) | 0.727 | 0.824 | 0.893 |
| ** N | 50935. | 23453. | 74388. |
| E(SXP) | 3616.29 | 851.87 | 2744.73 |
| E(S)XE(P) | 3632.90 | 459.55 | 2326.15 |
| COV(S,P) | -16.61 | 392.34 | 418.58 |
| R(S,P) | -0.056 | 0.655 | 0.543 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 43: TT GAS

(RECORD COUNT = 32461, OPERATING TIME = 7.79 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 21573. | 10888. | 32461. |
| MEAN | 68.05 | 37.68 | 57.86 |
| MEDIAN | 70.26 | 34.32 | 68.03 |
| STD DEV | 16.43 | 38.22 | 29.58 |
| % ACCEL | 3.89 | 7.00 | 4.94 |
| % CRUISE | 89.94 | 51.15 | 76.83 |
| % DECEL | 3.46 | 6.03 | 4.33 |
| % IDLE | 2.70 | 35.82 | 13.90 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 18884. | 9521. | 28405. |
| TOTAL N | 21226. | 10838. | 32064. |
| MEAN | 67.10 | 35.13 | 56.38 |
| MEDIAN | 83.02 | 13.36 | 60.90 |
| STD DEV | 34.95 | 40.78 | 39.97 |
| % ACCEL | 11.38 | 9.36 | 10.70 |
| % CRUISE | 67.19 | 70.03 | 68.15 |
| % DECEL | 11.72 | 10.32 | 11.25 |
| % MOTOR | 9.71 | 10.29 | 9.90 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 21226. | 10838. | 32064. |
| MEAN | 45.75 | 21.19 | 37.45 |
| MEDIAN | 50.22 | 10.37 | 47.56 |
| STD DEV | 12.47 | 23.81 | 20.73 |
| % ZERO | 2.22 | 37.37 | 14.10 |
| % ACCEL | 5.72 | 8.29 | 6.59 |
| % CRUISE | 88.26 | 47.90 | 74.62 |
| % DECEL | 3.75 | 6.31 | 4.61 |
| % IDLE | 2.28 | 37.51 | 14.18 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 19188. | 9560. | 28748. |
| E(EXP) | 4811.02 | 2573.87 | 4067.06 |
| E(E)XE(P) | 4590.72 | 1297.55 | 3272.18 |
| COV(E,P) | 220.31 | 1276.45 | 794.91 |
| R(E,P) | 0.397 | 0.794 | 0.661 |
| ** N | 21573. | 10888. | 32461. |
| E(SXE) | 3235.58 | 1605.61 | 2688.86 |
| E(S)XE(E) | 3122.36 | 800.33 | 2176.69 |
| COV(S,E) | 113.23 | 805.35 | 512.19 |
| R(S,E) | 0.545 | 0.882 | 0.832 |
| ** N | 19188. | 9560. | 28748. |
| E(SXP) | 3100.41 | 1634.98 | 2613.09 |
| E(S)XE(P) | 3092.59 | 761.39 | 2144.19 |
| COV(S,P) | 7.82 | 873.69 | 468.92 |
| R(S,P) | 0.018 | 0.865 | 0.562 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 48: TT GAS

(RECORD COUNT = 46998, OPERATING TIME = 11.28 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 15288. | 31710. | 46998. |
| MEAN | 59.61 | 24.61 | 36.00 |
| MEDIAN | 63.22 | 22.88 | 40.11 |
| STD DEV | 16.42 | 24.06 | 27.33 |
| % ACCEL | 4.58 | 12.27 | 9.77 |
| % CRUISE | 88.17 | 41.46 | 56.65 |
| % DECEL | 4.51 | 10.10 | 8.29 |
| % IDLE | 2.74 | 36.17 | 25.30 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 14096. | 26650. | 40746. |
| TOTAL N | 15261. | 31653. | 46914. |
| MEAN | 76.69 | 37.49 | 51.05 |
| MEDIAN | 88.43 | 23.18 | 53.58 |
| STD DEV | 27.95 | 39.28 | 40.34 |
| % ACCEL | 13.56 | 14.99 | 14.52 |
| % CRUISE | 64.91 | 56.54 | 59.26 |
| % DECEL | 15.53 | 17.02 | 16.53 |
| % MOTOR | 6.00 | 11.45 | 9.68 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 15261. | 31653. | 46914. |
| MEAN | 45.91 | 16.65 | 26.17 |
| MEDIAN | 49.65 | 15.48 | 27.98 |
| STD DEV | 11.50 | 14.98 | 19.55 |
| % ZERO | 1.37 | 27.79 | 19.19 |
| % ACCEL | 10.77 | 22.72 | 18.83 |
| % CRUISE | 79.32 | 32.59 | 47.79 |
| % DECEL | 8.47 | 15.37 | 13.13 |
| % IDLE | 1.44 | 29.32 | 20.25 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 14123. | 26698. | 40821. |
| E(EXP) | 4842.49 | 1538.17 | 2661.38 |
| E(E)XE(P) | 4671.46 | 908.54 | 1885.03 |
| COV(E,P) | 171.04 | 629.65 | 796.37 |
| R(E,P) | 0.398 | 0.647 | 0.703 |
| ** N | 15288. | 31710. | 46998. |
| E(SXE) | 2882.70 | 695.37 | 1406.89 |
| E(S)XE(E) | 2735.46 | 409.38 | 941.28 |
| COV(S,E) | 147.25 | 286.00 | 465.62 |
| R(S,E) | 0.767 | 0.788 | 0.867 |
| ** N | 14123. | 26698. | 40821. |
| E(SXP) | 3683.37 | 987.54 | 1920.23 |
| E(S)XE(P) | 3582.01 | 593.90 | 1353.87 |
| COV(S,P) | 101.36 | 393.66 | 566.36 |
| R(S,P) | 0.331 | 0.653 | 0.692 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 7: TT GAS

(RECORD COUNT = 39985, OPERATING TIME = 9.60 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 17829. | 22156. | 39985. |
| MEAN | 74.18 | 49.94 | 60.75 |
| MEDIAN | 81.24 | 60.17 | 73.74 |
| STD DEV | 25.93 | 40.21 | 36.62 |
| % ACCEL | 9.36 | 16.52 | 13.33 |
| % CRUISE | 77.30 | 43.05 | 58.32 |
| % DECEL | 8.89 | 15.59 | 12.60 |
| % IDLE | 4.45 | 24.84 | 15.75 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 13631. | 16650. | 30281. |
| TOTAL N | 17753. | 22080. | 39833. |
| MEAN | 71.85 | 42.30 | 55.60 |
| MEDIAN | 87.26 | 33.01 | 67.64 |
| STD DEV | 33.32 | 39.22 | 39.52 |
| % ACCEL | 21.90 | 21.20 | 21.51 |
| % CRUISE | 38.53 | 39.49 | 39.06 |
| % DECEL | 21.63 | 21.83 | 21.74 |
| % MOTOR | 17.94 | 17.48 | 17.69 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 17753. | 22080. | 39833. |
| MEAN | 45.56 | 21.80 | 32.39 |
| MEDIAN | 50.98 | 17.50 | 33.87 |
| STD DEV | 19.16 | 20.25 | 23.03 |
| % ZERO | 2.40 | 21.78 | 13.14 |
| % ACCEL | 23.87 | 26.43 | 25.29 |
| % CRUISE | 50.51 | 28.25 | 38.17 |
| % DECEL | 22.68 | 21.57 | 22.07 |
| % IDLE | 2.93 | 23.75 | 14.47 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 13705. | 16721. | 30426. |
| E(EXP) | 5976.06 | 3206.70 | 4454.12 |
| E(E)XE(P) | 5534.28 | 2033.54 | 3398.61 |
| COV(E,P) | 441.81 | 1173.23 | 1055.55 |
| R(E,P) | 0.517 | 0.708 | 0.693 |
| ** N | 17829. | 22156. | 39985. |
| E(SXE) | 3726.71 | 1687.74 | 2596.91 |
| E(S)XE(E) | 3384.54 | 1088.47 | 1969.41 |
| COV(S,E) | 342.19 | 599.30 | 627.51 |
| R(S,E) | 0.685 | 0.733 | 0.741 |
| ** N | 13705. | 16721. | 30426. |
| E(SXP) | 3784.16 | 1480.24 | 2518.01 |
| E(S)XE(P) | 3419.66 | 896.19 | 1839.73 |
| COV(S,P) | 364.52 | 584.09 | 678.30 |
| R(S,P) | 0.566 | 0.696 | 0.705 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 28: TT GAS

(RECORD COUNT = 117535, OPERATING TIME = 28.21 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 2891. | 114644. | 117535. |
| MEAN | 19.24 | 8.09 | 8.37 |
| MEDIAN | 0.95 | 0.43 | 0.44 |
| STD DEV | 23.76 | 15.70 | 16.04 |
| % ACCEL | 3.77 | 5.37 | 5.33 |
| % CRUISE | 38.35 | 17.40 | 17.92 |
| % DECEL | 4.15 | 5.47 | 5.43 |
| % IDLE | 53.72 | 71.76 | 71.32 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 2381. | 97572. | 99953. |
| TOTAL N | 2889. | 114602. | 117491. |
| MEAN | 31.80 | 11.19 | 11.66 |
| MEDIAN | 3.98 | 3.11 | 3.13 |
| STD DEV | 43.85 | 26.57 | 27.29 |
| % ACCEL | 5.95 | 8.72 | 8.65 |
| % CRUISE | 71.86 | 71.12 | 71.14 |
| % DECEL | 7.10 | 9.29 | 9.24 |
| % MOTOR | 15.09 | 10.87 | 10.97 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 2889. | 114602. | 117491. |
| MEAN | 13.40 | 3.78 | 4.02 |
| MEDIAN | 0.95 | 0.68 | 0.68 |
| STD DEV | 15.77 | 7.76 | 8.19 |
| % ZERO | 51.85 | 72.42 | 71.91 |
| % ACCEL | 11.35 | 8.39 | 8.46 |
| % CRUISE | 25.30 | 10.78 | 11.14 |
| % DECEL | 11.28 | 7.97 | 8.05 |
| % IDLE | 52.06 | 72.86 | 72.35 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 2383. | 97605. | 99988. |
| E(EXP) | 1457.68 | 364.34 | 390.40 |
| E(E)XE(P) | 537.86 | 65.58 | 71.53 |
| COV(E,P) | 920.21 | 298.76 | 318.87 |
| R(E,P) | 0.874 | 0.797 | 0.804 |
| ** N | 2891. | 114644. | 117535. |
| E(SXE) | 596.64 | 128.87 | 140.37 |
| E(S)XE(E) | 260.61 | 30.57 | 33.61 |
| COV(S,E) | 336.15 | 98.30 | 106.77 |
| R(S,E) | 0.883 | 0.801 | 0.807 |
| ** N | 2383. | 97605. | 99988. |
| E(SXP) | 942.43 | 168.98 | 187.41 |
| E(S)XE(P) | 352.66 | 29.46 | 33.11 |
| COV(S,P) | 590.02 | 139.52 | 154.30 |
| R(S,P) | 0.882 | 0.774 | 0.783 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 30: TT GAS

(RECORD COUNT = 26131, OPERATING TIME = 6.27 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 36. | 26095. | 26131. |
| MEAN | 64.44 | 11.67 | 11.75 |
| MEDIAN | 69.40 | 0.68 | 0.69 |
| STD DEV | 15.79 | 18.00 | 18.11 |
| % ACCEL | 2.78 | 6.08 | 6.07 |
| % CRUISE | 83.33 | 26.98 | 27.05 |
| % DECEL | 11.11 | 6.26 | 6.27 |
| % IDLE | 2.78 | 60.69 | 60.61 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 24. | 21935. | 21959. |
| TOTAL N | 36. | 26038. | 26074. |
| MEAN | 50.42 | 12.26 | 12.30 |
| MEDIAN | 55.00 | 3.61 | 3.61 |
| STD DEV | 27.10 | 24.74 | 24.78 |
| % ACCEL | 25.00 | 10.78 | 10.80 |
| % CRUISE | 13.89 | 65.29 | 65.21 |
| % DECEL | 30.56 | 12.29 | 12.31 |
| % MOTOR | 30.56 | 11.64 | 11.67 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 36. | 26038. | 26074. |
| MEAN | 39.50 | 6.08 | 6.12 |
| MEDIAN | 41.36 | 0.84 | 0.84 |
| STD DEV | 8.46 | 9.99 | 10.06 |
| % ZERO | 2.78 | 53.18 | 53.11 |
| % ACCEL | 19.44 | 10.10 | 10.11 |
| % CRUISE | 27.78 | 23.33 | 23.33 |
| % DECEL | 50.00 | 8.55 | 8.61 |
| % IDLE | 2.78 | 58.02 | 57.94 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 24. | 21976. | 22000. |
| E(EXP) | 3745.00 | 418.96 | 422.59 |
| E(E)XE(P) | 3503.96 | 112.97 | 114.17 |
| COV(E,P) | 251.52 | 306.00 | 308.44 |
| R(E,P) | 0.583 | 0.744 | 0.744 |
| ** N | 36. | 26095. | 26131. |
| E(SXE) | 2676.67 | 223.20 | 226.58 |
| E(S)XE(E) | 2545.56 | 70.85 | 71.83 |
| COV(S,E) | 134.86 | 152.36 | 154.76 |
| R(S,E) | 0.968 | 0.842 | 0.844 |
| ** N | 24. | 21976. | 22000. |
| E(SXP) | 2228.33 | 217.61 | 219.81 |
| E(S)XE(P) | 2100.69 | 55.77 | 56.46 |
| COV(S,P) | 133.19 | 161.85 | 163.35 |
| R(S,P) | 0.535 | 0.729 | 0.728 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 23: 2A DIESEL

(RECORD COUNT = 35354, OPERATING TIME = 8.48 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 15972. | 19382. | 35354. |
| MEAN | 81.05 | 43.78 | 60.62 |
| MEDIAN | 83.56 | 51.76 | 78.05 |
| STD DEV | 13.04 | 38.21 | 34.95 |
| % ACCEL | 11.10 | 17.93 | 14.84 |
| % CRUISE | 77.44 | 32.24 | 52.66 |
| % DECEL | 10.58 | 14.89 | 12.94 |
| % IDLE | 0.88 | 34.94 | 19.55 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 13903. | 13012. | 26915. |
| TOTAL N | 15943. | 19344. | 35287. |
| MEAN | 54.56 | 16.19 | 36.01 |
| MEDIAN | 57.67 | 4.71 | 34.39 |
| STD DEV | 26.03 | 21.47 | 30.67 |
| % ACCEL | 25.77 | 15.83 | 20.32 |
| % CRUISE | 34.91 | 40.23 | 37.83 |
| % DECEL | 29.20 | 17.97 | 23.04 |
| % MOTOR | 10.12 | 25.97 | 18.81 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 15943. | 19344. | 35287. |
| MEAN | 47.45 | 12.73 | 28.42 |
| MEDIAN | 51.49 | 10.70 | 27.72 |
| STD DEV | 10.30 | 11.68 | 20.53 |
| % ZERO | 0.01 | 23.10 | 12.66 |
| % ACCEL | 16.38 | 22.25 | 19.60 |
| % CRUISE | 72.73 | 37.45 | 53.39 |
| % DECEL | 10.83 | 14.72 | 1 .97 |
| % IDLE | 0.06 | 25.58 | 14.05 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 13930. | 13021. | 26951. |
| E(EXP) | 4567.73 | 1119.38 | 2901.69 |
| E(E)XE(P) | 4500.84 | 572.55 | 2151.40 |
| COV(E,P) | 66.90 | 546.87 | 750.32 |
| R(E,P) | 0.230 | 0.635 | 0.655 |
| ** N | 15972. | 19382. | 35354. |
| E(SXE) | 3924.33 | 929.67 | 2282.56 |
| E(S)XE(E) | 3844.52 | 556.29 | 1721.26 |
| COV(S,E) | 79.82 | 373.39 | 561.34 |
| R(S,E) | 0.575 | 0.835 | 0.780 |
| ** N | 13930. | 13021. | 26951. |
| E(SXP) | 2743.67 | 329.03 | 1577.07 |
| E(S)XE(P) | 2670.73 | 172.09 | 1096.36 |
| COV(S,P) | 72.95 | 156.95 | 480.73 |
| R(S,P) | 0.324 | 0.595 | 0.717 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 62: 2A DIESEL

(RECORD COUNT = 127915, OPERATING TIME = 30.70 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1862. | 126053. | 127915. |
| MEAN | 41.37 | 16.00 | 16.37 |
| MEDIAN | 40.92 | 0.65 | 0.66 |
| STD DEV | 34.10 | 24.62 | 24.97 |
| % ACCEL | 15.85 | 9.08 | 9.18 |
| % CRUISE | 41.75 | 20.30 | 20.61 |
| % DECEL | 16.34 | 9.36 | 9.46 |
| % IDLE | 26.06 | 61.27 | 60.75 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 1475. | 110282. | 111757. |
| TOTAL N | 1861. | 125974. | 127835. |
| MEAN | 40.73 | 18.63 | 18.92 |
| MEDIAN | 35.54 | 3.74 | 3.76 |
| STD DEV | 36.57 | 30.75 | 30.94 |
| % ACCEL | 19.45 | 12.88 | 12.98 |
| % CRUISE | 44.76 | 66.32 | 66.01 |
| % DECEL | 19.77 | 11.84 | 11.96 |
| % MOTOR | 16.01 | 8.95 | 9.05 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1861. | 125974. | 127835. |
| MEAN | 15.57 | 6.19 | 6.33 |
| MEDIAN | 12.74 | 0.88 | 0.88 |
| STD DEV | 13.91 | 8.79 | 8.96 |
| % ZERO | 24.66 | 55.44 | 55.00 |
| % ACCEL | 15.48 | 11.08 | 11.14 |
| % CRUISE | 43.79 | 23.63 | 23.92 |
| % DECEL | 14.35 | 9.15 | 9.22 |
| % IDLE | 26.38 | 56.15 | 55.71 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 1476. | 110354. | 111830. |
| E(EXP) | 2380.70 | 745.36 | 766.95 |
| E(E)XE(P) | 1518.62 | 222.26 | 232.07 |
| COV(E,P) | 862.67 | 523.11 | 534.88 |
| R(E,P) | 0.679 | 0.770 | 0.768 |
| ** N | 1862. | 126053. | 127915. |
| E(SXE) | 1050.87 | 268.19 | 279.58 |
| E(S)XE(E) | 645.53 | 98.82 | 103.35 |
| COV(S,E) | 405.56 | 169.37 | 176.24 |
| R(S,E) | 0.848 | 0.780 | 0.786 |
| ** N | 1476. | 110354. | 111830. |
| E(SXP) | 896.82 | 258.89 | 267.31 |
| E(S)XE(P) | 581.98 | 89.66 | 93.43 |
| COV(S,P) | 315.04 | 169.22 | 173.87 |
| R(S,P) | 0.607 | 0.678 | 0.677 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 29: 3A DIESEL

(RECORD COUNT = 114357, OPERATING TIME = 27.45 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 64847. | 49510. | 114357. |
| MEAN | 90.30 | 38.05 | 67.68 |
| MEDIAN | 93.55 | 35.07 | 86.58 |
| STD DEV | 14.26 | 36.44 | 36.88 |
| % ACCEL | 4.36 | 10.99 | 7.23 |
| % CRUISE | 90.46 | 40.30 | 68.76 |
| % DECEL | 3.95 | 10.22 | 6.67 |
| % IDLE | 1.23 | 38.49 | 17.35 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 52095. | 31829. | 83924. |
| TOTAL N | 64779. | 49394. | 114173. |
| MEAN | 50.88 | 20.42 | 39.33 |
| MEDIAN | 48.85 | 4.22 | 36.44 |
| STD DEV | 29.09 | 31.46 | 33.45 |
| % ACCEL | 25.35 | 11.84 | 19.51 |
| % CRUISE | 34.47 | 44.64 | 38.87 |
| % DECEL | 24.89 | 12.74 | 19.64 |
| % MOTOR | 15.29 | 30.77 | 21.99 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 64779. | 49394. | 114173. |
| MEAN | 50.82 | 12.26 | 34.14 |
| MEDIAN | 53.96 | 6.74 | 45.26 |
| STD DEV | 9.51 | 13.91 | 22.36 |
| % ZERO | 1.07 | 31.46 | 14.22 |
| % ACCEL | 9.68 | 15.22 | 12.08 |
| % CRUISE | 83.41 | 41.48 | 65.27 |
| % DECEL | 5.84 | 10.56 | 7.88 |
| % IDLE | 1.07 | 32.73 | 14.77 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 52147. | 31932. | 84079. |
| E(EXP) | 4691.42 | 1438.85 | 3456.12 |
| E(E)XE(P) | 4639.82 | 578.68 | 2646.34 |
| COV(E,P) | 51.60 | 860.20 | 809.79 |
| R(E,P) | 0.128 | 0.718 | 0.605 |
| ** N | 64847. | 49510. | 114357. |
| E(SXE) | 4686.19 | 879.81 | 3038.24 |
| E(S)XE(E) | 4585.89 | 465.51 | 2307.54 |
| COV(S,E) | 100.30 | 414.30 | 730.71 |
| R(S,E) | 0.720 | 0.816 | 0.683 |
| ** N | 52147. | 31932. | 84079. |
| E(SXP) | 2622.04 | 505.53 | 1818.22 |
| E(S)XE(P) | 2610.95 | 206.05 | 1401.61 |
| COV(S,P) | 11.09 | 299.48 | 416.61 |
| R(S,P) | 0.041 | 0.658 | 0.539 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 31: 3A DIESEL

(RECORD COUNT = .61954, OPERATING TIME = 14.87 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14823. | 47131. | 61954. |
| MEAN | 80.91 | 27.57 | 40.33 |
| MEDIAN | 86.50 | 0.64 | 23.56 |
| STD DEV | 21.29 | 38.48 | 41.86 |
| % ACCEL | 10.94 | 9.88 | 10.14 |
| % CRUISE | 74.15 | 20.83 | 33.56 |
| % DECEL | 10.57 | 8.84 | 9.26 |
| % IDLE | 4.33 | 60.44 | 47.05 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 13048. | 42530. | 55578. |
| TOTAL N | 14757. | 47045. | 61802. |
| MEAN | 53.85 | 17.32 | 25.90 |
| MEDIAN | 54.71 | 3.83 | 4.86 |
| STD DEV | 27.90 | 28.80 | 32.52 |
| % ACCEL | 23.74 | 13.08 | 15.62 |
| % CRUISE | 45.02 | 66.62 | 61.47 |
| % DECEL | 21.90 | 14.02 | 15.91 |
| % MOTOR | 9.34 | 6.27 | 7.00 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14757. | 47045. | 61802. |
| MEAN | 49.72 | 10.72 | 20.03 |
| MEDIAN | 54.33 | 0.90 | 11.78 |
| STD DEV | 13.33 | 14.36 | 21.82 |
| % ZERO | 3.90 | 54.31 | 42.28 |
| % ACCEL | 10.94 | 12.02 | 11.76 |
| % CRUISE | 74.70 | 23.14 | 35.45 |
| % DECEL | 10.44 | 9.95 | 10.07 |
| % IDLE | 3.92 | 54.89 | 42.72 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 13114. | 42613. | 55727. |
| E(EXP) | 4687.41 | 1215.42 | 2032.47 |
| E(E)XE(P) | 4409.77 | 425.98 | 986.86 |
| COV(E,P) | 277.66 | 789.46 | 1045.63 |
| R(E,P) | 0.460 | 0.718 | 0.755 |
| ** N | 14823. | 47131. | 61954. |
| E(SXE) | 4243.06 | 804.40 | 1627.13 |
| E(S)XE(E) | 4019.97 | 296.24 | 809.15 |
| COV(S,E) | 223.10 | 508.17 | 817.99 |
| R(S,E) | 0.782 | 0.918 | 0.895 |
| ** N | 13114. | 42613. | 55727. |
| E(SXP) | 2769.52 | 425.33 | 976.98 |
| E(S)XE(P) | 2689.34 | 162.94 | 491.13 |
| COV(S,P) | 80.18 | 262.39 | 485.86 |
| R(S,P) | 0.209 | 0.653 | 0.676 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 37: 3A DIESEL

(RECORD COUNT = 132185, OPERATING TIME = 31.72 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 113213. | 18972. | 132185. |
| MEAN | 79.75 | 50.51 | 75.56 |
| MEDIAN | 85.12 | 62.71 | 83.61 |
| STD DEV | 18.46 | 34.50 | 23.83 |
| % ACCEL | 6.01 | 12.96 | 7.01 |
| % CRUISE | 84.99 | 52.41 | 80.32 |
| % DECEL | 5.90 | 11.89 | 6.76 |
| % IDLE | 3.10 | 22.74 | 5.91 |

### POWER

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| * | N | 96552. | 16558. | 113110. |
| | TOTAL N | 113174. | 18942. | 132116. |
| | MEAN | 59.88 | 31.74 | 55.76 |
| | MEDIAN | 61.53 | 24.26 | 57.41 |
| | STD DEV | 29.27 | 31.05 | 31.17 |
| | % ACCEL | 16.72 | 18.41 | 16.96 |
| | % CRUISE | 53.34 | 52.34 | 53.20 |
| | % DECEL | 16.81 | 20.03 | 17.28 |
| | % MOTOR | 13.12 | 9.21 | 12.56 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 113174. | 18942. | 132116. |
| MEAN | 42.65 | 21.96 | 39.69 |
| MEDIAN | 49.98 | 20.78 | 47.90 |
| STD DEV | 15.77 | 17.28 | 17.56 |
| % ZERO | 4.13 | 14.76 | 5.66 |
| % ACCEL | 5.02 | 17.57 | 6.82 |
| % CRUISE | 87.15 | 55.04 | 82.54 |
| % DECEL | 3.59 | 12.09 | 4.81 |
| % IDLE | 4.25 | 15.30 | 5.83 |

### INTERACTION STATISTICS

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| ** | N | 96590. | 16587. | 113177. |
| | E(EXP) | 5052.66 | 2268.70 | 4644.04 |
| | E(E)XE(P) | 4785.48 | 1534.40 | 4197.88 |
| | COV(E,P) | 267.19 | 734.34 | 446.77 |
| | R(E,P) | 0.469 | 0.663 | 0.569 |
| ** | N | 113213. | 18972. | 132185. |
| | E(SXE) | 3574.27 | 1602.12 | 3291.21 |
| | E(S)XE(E) | 3411.21 | 1109.23 | 3005.92 |
| | COV(S,E) | 163.07 | 492.91 | 285.30 |
| | R(S,E) | 0.553 | 0.822 | 0.675 |
| ** | N | 96590. | 16587. | 113177. |
| | E(SXP) | 2597.54 | 1013.74 | 2365.42 |
| | E(S)XE(P) | 2552.30 | 674.27 | 2201.81 |
| | COV(S,P) | 45.23 | 339.50 | 163.61 |
| | R(S,P) | 0.095 | 0.614 | 0.290 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 38: 3A DIESEL

(RECORD COUNT = 9416, OPERATING TIME = 2.26 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 6073. | 3343. | 9416. |
| MEAN | 75.71 | 58.21 | 69.50 |
| MEDIAN | 84.05 | 71.45 | 81.71 |
| STD DEV | 30.35 | 37.51 | 34.11 |
| % ACCEL | 9.76 | 18.27 | 12.78 |
| % CRUISE | 70.22 | 44.43 | 61.08 |
| % DECEL | 9.73 | 16.01 | 11.96 |
| % IDLE | 10.29 | 21.28 | 14.19 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 5359. | 2487. | 7846. |
| TOTAL N | 6054. | 3322. | 9376. |
| MEAN | 65.49 | 46.14 | 59.36 |
| MEDIAN | 80.87 | 47.04 | 72.03 |
| STD DEV | 34.13 | 38.15 | 36.58 |
| % ACCEL | 20.30 | 17.16 | 19.19 |
| % CRUISE | 50.93 | 45.67 | 49.06 |
| % DECEL | 20.25 | 16.38 | 18.88 |
| % MOTOR | 8.52 | 20.80 | 12.87 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 6054. | 3322. | 9376. |
| MEAN | 35.60 | 14.80 | 28.23 |
| MEDIAN | 40.13 | 12.21 | 34.18 |
| STD DEV | 15.86 | 12.20 | 17.72 |
| % ZERO | 7.75 | 12.76 | 9.52 |
| % ACCEL | 18.85 | 25.68 | 21.27 |
| % CRUISE | 56.97 | 44.67 | 52.61 |
| % DECEL | 16.45 | 16.80 | 16.57 |
| % IDLE | 7.73 | 12.85 | 9.55 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 5378. | 2506. | 7884. |
| E(EXP) | 5593.72 | 3707.78 | 4994.25 |
| E(E)XE(P) | 4993.34 | 2591.59 | 4145.65 |
| COV(E,P) | 600.49 | 1116.64 | 848.71 |
| R(E,P) | 0.572 | 0.713 | 0.651 |
| ** N | 6073. | 3343. | 9416. |
| E(SXE) | 3053.09 | 1123.45 | 2367.99 |
| E(S)XE(E) | 2690.31 | 860.34 | 1957.53 |
| COV(S,E) | 362.83 | 263.19 | 410.51 |
| R(S,E) | 0.753 | 0.573 | 0.676 |
| ** N | 5378. | 2506. | 7884. |
| E(SXP) | 2676.51 | 835.33 | 2091.27 |
| E(S)XE(P) | 2363.06 | 606.39 | 1708.61 |
| COV(S,P) | 313.51 | 229.03 | 382.71 |
| R(S,P) | 0.572 | 0.500 | 0.570 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 44: 3A DIESEL

(RECORD COUNT = 50402, OPERATING TIME = 12.10 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 18748. | 31654. | 50402. |
| MEAN | 77.74 | 42.88 | 55.84 |
| MEDIAN | 87.58 | 39.83 | 73.45 |
| STD DEV | 28.01 | 40.71 | 40.21 |
| % ACCEL | 9.35 | 14.14 | 12.36 |
| % CRUISE | 74.28 | 34.81 | 49.50 |
| % DECEL | 9.00 | 13.03 | 11.53 |
| % IDLE | 7.36 | 38.02 | 26.61 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 16704. | 26586. | 43290. |
| TOTAL N | 18728. | 31611. | 50339. |
| MEAN | 43.00 | 20.32 | 29.07 |
| MEDIAN | 40.63 | 5.31 | 21.73 |
| STD DEV | 27.20 | 27.59 | 29.58 |
| % ACCEL | 20.90 | 18.43 | 19.35 |
| % CRUISE | 53.21 | 54.93 | 54.29 |
| % DECEL | 17.67 | 14.87 | 15.91 |
| % MOTOR | 8.22 | 11.77 | 10.45 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 18728. | 31611. | 50339. |
| MEAN | 43.11 | 14.47 | 25.13 |
| MEDIAN | 50.36 | 11.45 | 24.34 |
| STD DEV | 16.24 | 13.69 | 20.18 |
| % ZERO | 4.23 | 29.57 | 20.14 |
| % ACCEL | 27.02 | 25.76 | 26.23 |
| % CRUISE | 45.74 | 21.95 | 30.80 |
| % DECEL | 22.98 | 23.06 | 23.03 |
| % IDLE | 4.26 | 29.23 | 19.94 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 16724. | 26626. | 43350. |
| E(EXP) | 3807.21 | 1526.41 | 2406.33 |
| E(E)XE(P) | 3402.66 | 791.38 | 1589.84 |
| COV(E,P) | 404.57 | 735.06 | 823.50 |
| R(E,P) | 0.524 | 0.635 | 0.661 |
| ** N | 18748. | 31654. | 50402. |
| E(SXE) | 3701.09 | 1092.36 | 2062.73 |
| E(S)XE(E) | 3344.83 | 620.22 | 1401.45 |
| COV(S,E) | 356.27 | 472.15 | 661.30 |
| R(S,E) | 0.780 | 0.846 | 0.814 |
| ** N | 16724. | 26626. | 43350. |
| E(SXP) | 2023.94 | 452.08 | 1058.49 |
| E(S)XE(P) | 1882.92 | 260.66 | 720.00 |
| COV(S,P) | 141.03 | 191.43 | 338.49 |
| R(S,P) | 0.312 | 0.501 | 0.539 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 36: 3A DIESEL

(RECORD COUNT = 110340, OPERATING TIME = 26.48 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4864. | 105476. | 110340. |
| MEAN | 82.59 | 6.01 | 9.38 |
| MEDIAN | 86.40 | 0.13 | 0.18 |
| STD DEV | 24.61 | 19.66 | 25.37 |
| % ACCEL | 16.09 | 3.44 | 3.99 |
| % CRUISE | 65.79 | 4.68 | 7.34 |
| % DECEL | 16.17 | 3.42 | 3.97 |
| % IDLE | 1.95 | 88.45 | 84.69 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 3830. | 101894. | 105724. |
| TOTAL N | 4780. | 105219. | 109999. |
| MEAN | 57.76 | 4.84 | 6.76 |
| MEDIAN | 60.47 | 2.76 | 2.80 |
| STD DEV | 31.32 | 17.33 | 20.56 |
| % ACCEL | 22.05 | 3.99 | 4.78 |
| % CRUISE | 39.69 | 89.99 | 87.80 |
| % DECEL | 21.65 | 3.69 | 4.47 |
| % MOTOR | 16.61 | 2.33 | 2.95 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4780. | 105219. | 109999. |
| MEAN | 29.59 | 1.78 | 2.99 |
| MEDIAN | 31.14 | 0.58 | 0.61 |
| STD DEV | 6.96 | 5.34 | 7.84 |
| % ZERO | 0.82 | 84.33 | 80.70 |
| % ACCEL | 34.31 | 5.71 | 6.95 |
| % CRUISE | 34.02 | 4.19 | 5.48 |
| % DECEL | 30.79 | 5.24 | 6.35 |
| % IDLE | 0.88 | 84.86 | 81.21 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 3910. | 102144. | 106054. |
| E(EXP) | 4867.62 | 274.44 | 443.78 |
| E(E)XE(P) | 4825.87 | 23.11 | 52.28 |
| COV(E,P) | 41.76 | 251.34 | 391.51 |
| R(E,P) | 0.055 | 0.611 | 0.809 |
| ** N | 4864. | 105476. | 110340. |
| E(SXE) | 2577.34 | 94.89 | 204.32 |
| E(S)XE(E) | 2446.52 | 10.85 | 28.46 |
| COV(S,E) | 130.84 | 84.04 | 175.87 |
| R(S,E) | 0.757 | 0.795 | 0.876 |
| ** N | 3910. | 102144. | 106054. |
| E(SXP) | 1773.93 | 70.32 | 133.12 |
| E(S)XE(P) | 1745.70 | 6.98 | 17.05 |
| COV(S,P) | 28.24 | 63.34 | 116.07 |
| R(S,P) | 0.127 | 0.755 | 0.765 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 37: 3A DIESEL

(RECORD COUNT = 19538, OPERATING TIME = 4.69 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8836. | 10702. | 19538. |
| MEAN | 53.39 | 27.69 | 39.42 |
| MEDIAN | 59.66 | 28.81 | 41.82 |
| STD DEV | 31.52 | 25.26 | 30.98 |
| % ACCEL | 9.05 | 12.33 | 10.84 |
| % CRUISE | 68.65 | 40.85 | 53.43 |
| % DECEL | 9.61 | 12.92 | 11.42 |
| % IDLE | 12.69 | 33.90 | 24.30 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 8490. | 10578. | 19068. |
| TOTAL N | 8833. | 10683. | 19516. |
| MEAN | 56.75 | 40.52 | 47.75 |
| MEDIAN | 65.43 | 41.18 | 53.23 |
| STD DEV | 33.69 | 35.80 | 35.79 |
| % ACCEL | 18.66 | 16.66 | 17.57 |
| % CRUISE | 55.20 | 61.42 | 58.61 |
| % DECEL | 23.45 | 21.50 | 22.38 |
| % MOTOR | 2.69 | 0.41 | 1.44 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8833. | 10683. | 19516. |
| MEAN | 25.49 | 11.23 | 17.66 |
| MEDIAN | 30.14 | 10.44 | 15.69 |
| STD DEV | 15.47 | 10.21 | 14.69 |
| % ZERO | 8.14 | 27.02 | 18.48 |
| % ACCEL | 11.55 | 20.25 | 16.31 |
| % CRUISE | 68.82 | 34.86 | 50.23 |
| % DECEL | 11.54 | 17.92 | 15.03 |
| % IDLE | 8.09 | 26.98 | 18.43 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 8493. | 10597. | 19090. |
| E(EXP) | 3676.96 | 1809.99 | 2640.59 |
| E(E)XE(P) | 2982.21 | 1119.49 | 1848.15 |
| COV(E,P) | 694.83 | 690.57 | 792.48 |
| R(E,P) | 0.650 | 0.764 | 0.716 |
| ** N | 8836. | 10702. | 19538. |
| E(SXE) | 1814.04 | 516.76 | 1103.46 |
| E(S)XE(E) | 1355.74 | 312.08 | 694.40 |
| COV(S,E) | 458.36 | 204.71 | 409.08 |
| R(S,E) | 0.940 | 0.792 | 0.899 |
| ** N | 8493. | 10597. | 19090. |
| E(SXP) | 1720.26 | 632.66 | 1116.52 |
| E(S)XE(P) | 1421.32 | 448.04 | 824.87 |
| COV(S,P) | 298.97 | 184.64 | 291.67 |
| R(S,P) | 0.570 | 0.509 | 0.558 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 43: 3A DIESEL

(RECORD COUNT = 38243, OPERATING TIME = 9.18 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 13159. | 25084. | 38243. |
| MEAN | 79.18 | 38.09 | 52.23 |
| MEDIAN | 87.78 | 12.57 | 64.02 |
| STD DEV | 30.55 | 42.26 | 43.28 |
| % ACCEL | 12.74 | 13.31 | 13.11 |
| % CRUISE | 68.45 | 26.19 | 40.63 |
| % DECEL | 12.52 | 13.15 | 12.93 |
| % IDLE | 6.29 | 47.36 | 33.32 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 9947. | 20258. | 30205. |
| TOTAL N | 12883. | 24820. | 37703. |
| MEAN | 56.07 | 19.34 | 31.43 |
| MEDIAN | 59.86 | 4.62 | 22.40 |
| STD DEV | 31.00 | 26.61 | 33.00 |
| % ACCEL | 25.17 | 21.35 | 22.66 |
| % CRUISE | 34.50 | 49.05 | 44.08 |
| % DECEL | 22.39 | 17.79 | 19.36 |
| % MOTOR | 17.95 | 11.80 | 13.90 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 12883. | 24820. | 37703. |
| MEAN | 30.49 | 8.20 | 15.82 |
| MEDIAN | 33.18 | 3.71 | 11.93 |
| STD DEV | 14.94 | 9.88 | 15.88 |
| % ZERO | 3.49 | 40.14 | 27.62 |
| % ACCEL | 23.06 | 17.19 | 19.19 |
| % CRUISE | 50.45 | 24.09 | 33.10 |
| % DECEL | 22.76 | 16.59 | 18.70 |
| % IDLE | 3.73 | 42.13 | 29.01 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 10219. | 20506. | 30725. |
| E(EXP) | 5141.21 | 1572.17 | 2759.22 |
| E(E)XE(P) | 4645.05 | 702.12 | 1632.04 |
| COV(E,P) | 496.21 | 870.09 | 1127.21 |
| R(E,P) | 0.522 | 0.735 | 0.744 |
| ** N | 13159. | 25084. | 38243. |
| E(SXE) | 2705.56 | 648.15 | 1356.08 |
| E(S)XE(E) | 2414.84 | 315.12 | 831.69 |
| COV(S,E) | 290.74 | 333.04 | 524.40 |
| R(S,E) | 0.638 | 0.797 | 0.763 |
| ** N | 10219. | 20506. | 30725. |
| E(SXP) | 2040.96 | 323.08 | 894.44 |
| E(S)XE(P) | 1799.90 | 148.66 | 499.85 |
| COV(S,P) | 241.08 | 174.44 | 394.60 |
| R(S,P) | 0.500 | 0.644 | 0.709 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 54: 3A DIESEL

(RECORD COUNT = 97812, OPERATING TIME = 23.47 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 38194. | 59618. | 97812. |
| MEAN | 19.98 | 37.44 | 30.62 |
| MEDIAN | 0.51 | 24.97 | 0.91 |
| STD DEV | 33.63 | 39.56 | 38.32 |
| % ACCEL | 9.19 | 12.88 | 11.44 |
| % CRUISE | 14.80 | 29.82 | 23.95 |
| % DECEL | 10.12 | 14.18 | 12.59 |
| % IDLE | 65.89 | 43.11 | 52.02 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 29921. | 41253. | 71174. |
| TOTAL N | 37987. | 59125. | 97112. |
| MEAN | 9.35 | 22.91 | 17.21 |
| MEDIAN | 3.36 | 4.66 | 4.01 |
| STD DEV | 19.49 | 30.67 | 27.38 |
| % ACCEL | 15.39 | 19.40 | 17.84 |
| % CRUISE | 57.73 | 40.59 | 47.29 |
| % DECEL | 14.06 | 18.64 | 16.85 |
| % MOTOR | 12.81 | 21.37 | 18.02 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 37987. | 59125. | 97112. |
| MEAN | 3.90 | 15.21 | 10.78 |
| MEDIAN | 0.74 | 7.08 | 0.97 |
| STD DEV | 7.15 | 18.36 | 15.99 |
| % ZERO | 55.00 | 32.06 | 41.03 |
| % ACCEL | 9.60 | 19.66 | 15.72 |
| % CRUISE | 15.09 | 22.07 | 19.34 |
| % DECEL | 8.97 | 18.31 | 14.66 |
| % IDLE | 66.35 | 39.96 | 50.28 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 30122. | 41721. | 71843. |
| E(EXP) | 727.01 | 1845.63 | 1376.63 |
| E(E)XE(P) | 181.53 | 836.22 | 504.91 |
| COV(E,P) | 545.50 | 1009.43 | 871.73 |
| R(E,P) | 0.783 | 0.787 | 0.791 |
| ** N | 38194. | 59618. | 97812. |
| E(SXE) | 249.46 | 1121.33 | 780.86 |
| E(S)XE(E) | 78.00 | 572.32 | 331.96 |
| COV(S,E) | 171.47 | 549.03 | 448.92 |
| R(S,E) | 0.712 | 0.753 | 0.730 |
| ** N | 30122. | 41721. | 71843. |
| E(SXP) | 112.18 | 723.19 | 467.01 |
| E(S)XE(P) | 32.60 | 329.40 | 169.24 |
| COV(S,P) | 79.58 | 393.79 | 297.77 |
| R(S,P) | 0.580 | 0.679 | 0.676 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 57: 3A DIESEL

(RECORD COUNT = 88732, OPERATING TIME = 21.30 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1245. | 87487. | 88732. |
| MEAN | 41.87 | 27.14 | 27.35 |
| MEDIAN | 49.88 | 10.38 | 11.16 |
| STD DEV | 30.21 | 30.89 | 30.93 |
| % ACCEL | 9.05 | 11.98 | 11.94 |
| % CRUISE | 57.64 | 30.04 | 30.43 |
| % DECEL | 10.19 | 11.62 | 11.60 |
| % IDLE | 23.12 | 46.36 | 46.03 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 1237. | 87353. | 88590. |
| MEAN | 28.83 | 10.59 | 10.84 |
| MEDIAN | 34.00 | 5.02 | 5.35 |
| STD DEV | 20.57 | 12.66 | 12.98 |
| % ZERO | 8.00 | 45.83 | 45.30 |
| % ACCEL | 24.01 | 20.47 | 20.52 |
| % CRUISE | 42.85 | 15.22 | 15.60 |
| % DECEL | 26.27 | 19.44 | 19.53 |
| % IDLE | 6.87 | 44.88 | 44.35 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 1109. | 80465. | 81574. |
| TOTAL N | 1237. | 87353. | 88590. |
| MEAN | 39.59 | 23.45 | 23.67 |
| MEDIAN | 36.72 | 4.95 | 4.98 |
| STD DEV | 33.40 | 30.46 | 30.56 |
| % ACCEL | 19.81 | 20.53 | 20.52 |
| % CRUISE | 54.00 | 57.46 | 57.41 |
| % DECEL | 18.59 | 17.27 | 17.29 |
| % MOTOR | 7.60 | 4.74 | 4.78 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 1117. | 80588. | 81705. |
| E(EXP) | 2150.15 | 1091.69 | 1106.16 |
| E(E)XE(P) | 1550.84 | 553.90 | 564.14 |
| COV(E,P) | 599.85 | 537.80 | 542.03 |
| R(E,P) | 0.593 | 0.603 | 0.604 |
| ** N | 1245. | 87487. | 88732. |
| E(SXE) | 1723.21 | 608.16 | 623.80 |
| E(S)XE(E) | 1204.62 | 287.72 | 296.89 |
| COV(S,E) | 519.01 | 320.44 | 326.92 |
| R(S,E) | 0.834 | 0.817 | 0.812 |
| ** N | 1117. | 80588. | 81705. |
| E(SXP) | 1578.71 | 427.48 | 443.22 |
| E(S)XE(P) | 1117.03 | 223.68 | 231.82 |
| COV(S,P) | 462.09 | 203.80 | 211.40 |
| R(S,P) | 0.656 | 0.541 | 0.544 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 6: TT DIESEL

(RECORD COUNT = 65697, OPERATING TIME = 15.77 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 39576. | 26121. | 65697. |
| MEAN | 90.97 | 46.95 | 73.47 |
| MEDIAN | 94.73 | 52.03 | 90.86 |
| STD DEV | 17.62 | 43.39 | 37.41 |
| % ACCEL | 4.37 | 11.07 | 7.03 |
| % CRUISE | 89.24 | 38.87 | 69.22 |
| % DECEL | 4.25 | 10.66 | 6.79 |
| % IDLE | 2.15 | 39.41 | 16.95 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 29007. | 19003. | 48010. |
| TOTAL N | 39573. | 26085. | 65658. |
| MEAN | 52.86 | 26.62 | 42.47 |
| MEDIAN | 53.93 | 4.63 | 40.97 |
| STD DEV | 30.68 | 34.65 | 34.76 |
| % ACCEL | 26.39 | 15.15 | 21.93 |
| % CRUISE | 26.84 | 48.13 | 35.30 |
| % DECEL | 25.10 | 14.64 | 20.94 |
| % MOTOR | 21.67 | 22.07 | 21.83 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 39573. | 26085. | 65658. |
| MEAN | 49.67 | 19.48 | 37.67 |
| MEDIAN | 53.85 | 11.77 | 48.61 |
| STD DEV | 12.17 | 20.92 | 21.94 |
| % ZERO | 1.69 | 37.08 | 15.75 |
| % ACCEL | 6.83 | 15.13 | 10.13 |
| % CRUISE | 84.95 | 36.60 | 65.74 |
| % DECEL | 6.51 | 10.96 | 8.28 |
| % IDLE | 1.71 | 37.31 | 15.85 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 29008. | 19030. | 48038. |
| E(EXP) | 4996.88 | 2306.65 | 3931.16 |
| E(E)XE(P) | 4841.45 | 1046.31 | 3009.74 |
| COV(E,P) | 155.44 | 1260.41 | 921.44 |
| R(E,P) | 0.276 | 0.806 | 0.650 |
| ** N | 39576. | 26121. | 65697. |
| E(SXE) | 4686.11 | 1706.41 | 3501.39 |
| E(S)XE(E) | 4526.22 | 913.74 | 2770.30 |
| COV(S,E) | 159.90 | 792.70 | 731.10 |
| R(S,E) | 0.735 | 0.871 | 0.886 |
| ** N | 29008. | 19030. | 48038. |
| E(SXP) | 2680.86 | 1048.97 | 2034.40 |
| E(S)XE(P) | 2645.26 | 465.96 | 1577.60 |
| COV(S,P) | 35.60 | 583.02 | 456.81 |
| R(S,P) | 0.098 | 0.768 | 0.572 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 15: TT DIESEL

(RECORD COUNT = 47922, OPERATING TIME = 11.50 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 30722. | 17200. | 47922. |
| MEAN | 95.01 | 39.90 | 75.23 |
| MEDIAN | 96.99 | 13.00 | 94.90 |
| STD DEV | 9.77 | 42.89 | 37.69 |
| % ACCEL | 5.39 | 9.25 | 6.78 |
| % CRUISE | 89.20 | 35.79 | 70.06 |
| % DECEL | 4.99 | 7.05 | 5.73 |
| % IDLE | 0.41 | 47.91 | 17.44 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 20079. | 12788. | 32867. |
| TOTAL N | 30642. | 17118. | 47760. |
| MEAN | 39.42 | 20.57 | 32.08 |
| MEDIAN | 36.38 | 15.38 | 25.08 |
| STD DEV | 26.44 | 25.23 | 27.55 |
| % ACCEL | 19.90 | 13.46 | 17.59 |
| % CRUISE | 28.65 | 50.98 | 36.65 |
| % DECEL | 22.43 | 15.88 | 20.09 |
| % MOTOR | 29.02 | 19.68 | 25.67 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 30642. | 17118. | 47760. |
| MEAN | 53.17 | 17.67 | 40.45 |
| MEDIAN | 54.96 | 3.74 | 53.58 |
| STD DEV | 6.49 | 21.77 | 22.06 |
| % ZERO | 0.06 | 39.46 | 14.18 |
| % ACCEL | 10.67 | 12.78 | 11.43 |
| % CRUISE | 83.67 | 40.96 | 68.36 |
| % DECEL | 5.59 | 6.40 | 5.88 |
| % IDLE | 0.07 | 39.85 | 14.33 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 20092. | 12801. | 32893. |
| E(EXP) | 3685.28 | 1293.26 | 2754.36 |
| E(E)XE(P) | 3737.85 | 668.27 | 2263.85 |
| COV(E,P) | -52.57 | 625.04 | 490.52 |
| R(E,P) | -0.210 | 0.577 | 0.432 |
| ** N | 30722. | 17200. | 47922. |
| E(SXE) | 5119.96 | 1555.41 | 3840.59 |
| E(S)XE(E) | 5069.84 | 707.43 | 3052.08 |
| COV(S,E) | 50.12 | 848.02 | 788.53 |
| R(S,E) | 0.758 | 0.904 | 0.942 |
| ** N | 20092. | 12801. | 32893. |
| E(SXP) | 2042.82 | 601.97 | 1482.08 |
| E(S)XE(P) | 2081.67 | 318.65 | 1228.28 |
| COV(S,P) | -38.85 | 283.34 | 253.81 |
| R(S,P) | -0.227 | 0.510 | 0.394 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 20: TT DIESEL

(RECORD COUNT = 32831, OPERATING TIME = 7.88 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 24842. | 7989. | 32831. |
| MEAN | 77.55 | 51.79 | 71.28 |
| MEDIAN | 78.37 | 60.29 | 77.07 |
| STD DEV | 13.86 | 36.96 | 24.49 |
| % ACCEL | 6.36 | 15.92 | 8.70 |
| % CRUISE | 86.41 | 46.78 | 76.73 |
| % DECEL | 6.27 | 15.62 | 8.55 |
| % IDLE | 0.96 | 21.68 | 6.02 |

### POWER

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| * | N | 21876. | 5797. | 27673. |
| | TOTAL N | 24588. | 7952. | 32540. |
| | MEAN | 52.97 | 31.45 | 48.46 |
| | MEDIAN | 50.27 | 23.37 | 45. 4 |
| | STD DEV | 26.37 | 30.55 | 28.63 |
| | % ACCEL | 21.93 | 20.88 | 21.67 |
| | % CRUISE | 43.20 | 36.23 | 41.49 |
| | % DECEL | 25.88 | 21.62 | 24.84 |
| | % MOTOR | 8.99 | 21.28 | 11.99 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 24588. | 7952. | 32540. |
| MEAN | 37.21 | 13.83 | 31.49 |
| MEDIAN | 37.99 | 13.94 | 35.72 |
| STD DEV | 7.45 | 9.79 | 12.89 |
| % ZERO | 0.49 | 11.87 | 3.27 |
| % ACCEL | 24.77 | 22.10 | 24.11 |
| % CRUISE | 54.34 | 44.71 | 51.98 |
| % DECEL | 20.33 | 18.51 | 19.89 |
| % IDLE | 0.57 | 14.69 | 4.02 |

### INTERACTION STATISTICS

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| ** | N | 22106. | 5829. | 27935. |
| | E(EXP) | 4256.96 | 2297.03 | 3847.99 |
| | E(E)XE(P) | 4133.54 | 1603.42 | 3509.33 |
| | COV(E,P) | 123.43 | 693.72 | 338.67 |
| | R(E,P) | 0.355 | 0.571 | 0.486 |
| ** | N | 24842. | 7989. | 32831. |
| | E(SXE) | 2925.68 | 983.43 | 2453.06 |
| | E(S)XE(E) | 2886.56 | 716.75 | 2247.71 |
| | COV(S,E) | 39.12 | 266.72 | 205.35 |
| | R(S,E) | 0.373 | 0.735 | 0.648 |
| ** | N | 22106. | 5829. | 27935. |
| | E(SXP) | 1985.27 | 564.13 | 1686.73 |
| | E(S)XE(P) | 1978.06 | 417.09 | 1567.05 |
| | COV(S,P) | 7.21 | 147.06 | 121.68 |
| | R(S,P) | 0.038 | 0.458 | 0.336 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 22: TT DIESEL

(RECORD COUNT = 40072, OPERATING TIME = 9.62 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 23585. | 16487. | 40072. |
| MEAN | 73.38 | 49.60 | 63.60 |
| MEDIAN | 82.66 | 62.44 | 79.55 |
| STD DEV | 25.18 | 37.21 | 32.86 |
| % ACCEL | 9.54 | 15.10 | 11.82 |
| % CRUISE | 76.41 | 47.04 | 64.36 |
| % DECEL | 7.36 | 9.64 | 8.29 |
| % IDLE | 6.69 | 28.22 | 15.52 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 17377. | 10174. | 27551. |
| TOTAL N | 23399. | 16273. | 39672. |
| MEAN | 54.16 | 29.16 | 44.93 |
| MEDIAN | 57.57 | 12.51 | 46.03 |
| STD DEV | 32.42 | 34.76 | 35.42 |
| % ACCEL | 23.54 | 16.97 | 20.84 |
| % CRUISE | 32.30 | 35.56 | 33.64 |
| % DECEL | 22.93 | 15.87 | 20.04 |
| % MOTOR | 21.23 | 31.60 | 25.48 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 23399. | 16273. | 39672. |
| MEAN | 41.17 | 16.49 | 31.04 |
| MEDIAN | 50.53 | 11.25 | 32.81 |
| STD DEV | 18.35 | 16.76 | 21.48 |
| % ZERO | 5.33 | 23.47 | 12.77 |
| % ACCEL | 11.64 | 20.26 | 15.17 |
| % CRUISE | 77.08 | 46.85 | 64.68 |
| % DECEL | 5.76 | 8.20 | 6.76 |
| % IDLE | 5.53 | 24.69 | 13.39 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 17407. | 10195. | 27602. |
| E(EXP) | 4566.49 | 2304.65 | 3731.05 |
| E(E)XE(P) | 4099.35 | 1248.61 | 2854.99 |
| COV(E,P) | 467.16 | 1056.14 | 876.09 |
| R(E,P) | 0.558 | 0.732 | 0.684 |
| ** N | 23585. | 16487. | 40072. |
| E(SXE) | 3393.01 | 1292.82 | 2528.92 |
| E(S)XE(E) | 3018.46 | 818.19 | 1970.88 |
| COV(S,E) | 374.57 | 474.66 | 558.05 |
| R(S,E) | 0.802 | 0.762 | 0.788 |
| ** N | 17407. | 10195. | 27602. |
| E(SXP) | 2742.01 | 907.61 | 2064.46 |
| E(S)XE(P) | 2426.92 | 470.28 | 1537.22 |
| COV(S,P) | 315.10 | 437.37 | 527.26 |
| R(S,P) | 0.564 | 0.682 | 0.662 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 27: TT DIESEL

(RECORD COUNT = 32916, OPERATING TIME = 7.90 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7830. | 25086. | 32916. |
| MEAN | 79.25 | 52.45 | 58.82 |
| MEDIAN | 80.07 | 64.30 | 75.10 |
| STD DEV | 10.97 | 41.41 | 38.29 |
| % ACCEL | 5.61 | 14.66 | 12.51 |
| % CRUISE | 83.99 | 42.92 | 53.89 |
| % DECEL | 5.11 | 12.91 | 11.05 |
| % IDLE | 0.28 | 29.50 | 22.55 |

### POWER

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| * | N | 5305. | 15212. | 20517. |
| | TOTAL N | 7823. | 25040. | 32863. |
| | MEAN | 39.58 | 27.80 | 30.85 |
| | MEDIAN | 31.01 | 5.31 | 18.15 |
| | STD DEV | 30.15 | 35.59 | 34.65 |
| | % ACCEL | 20.20 | 13.26 | 14.91 |
| | % CRUISE | 34.25 | 40.72 | 39.18 |
| | % DECEL | 17.82 | 11.76 | 13.20 |
| | % MOTOR | 27.74 | 34.26 | 32.71 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7823. | 25040. | 32863. |
| MEAN | 51.26 | 15.36 | 23.91 |
| MEDIAN | 53.34 | 12.92 | 20.34 |
| STD DEV | 6.99 | 14.19 | 19.97 |
| % ZERO | 0.09 | 25.60 | 19.52 |
| % ACCEL | 30.40 | 27.92 | 28.51 |
| % CRUISE | 44.01 | 21.17 | 26.61 |
| % DECEL | 25.50 | 25.30 | 25.34 |
| % IDLE | 0.09 | 25.62 | 19.54 |

### INTERACTION STATISTICS

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| ** | N | 5311. | 15238. | 20549. |
| | E(EXP) | 3268.86 | 2436.58 | 2651.07 |
| | E(E)XE(P) | 3187.03 | 1210.04 | 1637.41 |
| | COV(E,P) | 81.84 | 1226.62 | 1014.31 |
| | R(E,P) | 0.275 | 0.752 | 0.681 |
| ** | N | 7830. | 25086. | 32916. |
| | E(SXE) | 4069.30 | 1226.81 | 1902.96 |
| | E(S)XE(E) | 4046.40 | 805.01 | 1403.63 |
| | COV(S,E) | 22.90 | 421.82 | 499.36 |
| | R(S,E) | 0.293 | 0.716 | 0.652 |
| ** | N | 5311. | 15238. | 20549. |
| | E(SXP) | 1975.21 | 652.36 | 994.25 |
| | E(S)XE(P) | 2039.08 | 341.60 | 691.62 |
| | COV(S,P) | -63.88 | 310.78 | 302.66 |
| | R(S,P) | -0.318 | 0.604 | 0.407 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 33: TT DIESEL

(RECORD COUNT = 13187, OPERATING TIME = 3.16 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3639. | 9548. | 13187. |
| MEAN | 85.50 | 53.27 | 62.16 |
| MEDIAN | 86.84 | 64.80 | 78.98 |
| STD DEV | 12.63 | 37.25 | 35.47 |
| % ACCEL | 7.39 | 16.73 | 14.15 |
| % CRUISE | 83.95 | 45.00 | 55.76 |
| % DECEL | 7.61 | 14.20 | 12.38 |
| % IDLE | 1.04 | 24.06 | 17.71 |

### POWER

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| * | N | 3129. | 6450. | 9579. |
| | TOTAL N | 3639. | 9537. | 13176. |
| | MEAN | 49.72 | 37.32 | 41.37 |
| | MEDIAN | 47.29 | 28.27 | 41.14 |
| | STD DEV | 22.98 | 36.58 | 33.27 |
| | % ACCEL | 19.68 | 17.44 | 18.06 |
| | % CRUISE | 48.34 | 39.84 | 42.19 |
| | % DECEL | 20.03 | 15.53 | 16.77 |
| | % MOTOR | 11.95 | 27.19 | 22.98 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3639. | 9537. | 13176. |
| MEAN | 51.67 | 19.62 | 28.47 |
| MEDIAN | 53.87 | 18.18 | 26.83 |
| STD DEV | 7.76 | 16.11 | 20.25 |
| % ZERO | 0.66 | 16.87 | 12.39 |
| % ACCEL | 10.96 | 24.92 | 21.07 |
| % CRUISE | 79.94 | 39.76 | 50.86 |
| % DECEL | 8.44 | 18.39 | 15.64 |
| % IDLE | 0.66 | 16.92 | 12.43 |

### INTERACTION STATISTICS

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| ** | N | 3129. | 6453. | 9582. |
| | E(EXP) | 4395.62 | 2930.09 | 3408.62 |
| | E(E)XE(P) | 4317.64 | 1869.03 | 2568.37 |
| | COV(E,P) | 78.01 | 1061.22 | 840.34 |
| | R(E,P) | 0.313 | 0.698 | 0.652 |
| ** | N | 3639. | 9548. | 13187. |
| | E(SXE) | 4512.52 | 1513.85 | 2341.34 |
| | E(S)XE(E) | 4446.37 | 1045.83 | 1774.58 |
| | COV(S,E) | 66.17 | 468.07 | 566.80 |
| | R(S,E) | 0.641 | 0.777 | 0.784 |
| ** | N | 3129. | 6453. | 9582. |
| | E(SXP) | 2605.27 | 1046.85 | 1555.75 |
| | E(S)XE(P) | 2600.65 | 699.51 | 1228.78 |
| | COV(S,P) | 4.62 | 347.39 | 327.00 |
| | R(S,P) | 0.028 | 0.537 | 0.451 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 34: TT DIESEL

(RECORD COUNT = 44546, OPERATING TIME = 10.69 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 39501. | 5045. | 44546. |
| MEAN | 79.75 | 56.59 | 77.12 |
| MEDIAN | 80.21 | 65.52 | 79.59 |
| STD DEV | 7.68 | 28.91 | 14.17 |
| % ACCEL | 12.36 | 22.25 | 13.51 |
| % CRUISE | 75.20 | 43.22 | 71.59 |
| % DECEL | 12.23 | 21.21 | 13.24 |
| % IDLE | 0.21 | 13.05 | 1.66 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 36451. | 3637. | 40088. |
| TOTAL N | 39495. | 5035. | 44530. |
| MEAN | 63.36 | 32.24 | 60.53 |
| MEDIAN | 67.75 | 28.73 | 65.15 |
| STD DEV | 25.05 | 26.69 | 26.74 |
| % ACCEL | 23.21 | 24.35 | 23.34 |
| % CRUISE | 50.15 | 33.07 | 48.22 |
| % DECEL | 20.97 | 22.78 | 21.17 |
| % MOTOR | 5.67 | 19.80 | 7.27 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 39495. | 5035. | 44530. |
| MEAN | 52.59 | 18.88 | 48.77 |
| MEDIAN | 54.16 | 18.59 | 53.82 |
| STD DEV | 6.63 | 11.64 | 12.97 |
| % ZERO | 0.05 | 8.50 | 1.00 |
| % ACCEL | 16.47 | 34.04 | 18.45 |
| % CRUISE | 71.06 | 26.22 | 65.99 |
| % DECEL | 12.43 | 31.10 | 14.54 |
| % IDLE | 0.05 | 8.64 | 1.02 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 36456. | 3645. | 40101. |
| E(EXP) | 5103.90 | 2188.82 | 4838.93 |
| E(E)XE(P) | 5076.02 | 1791.00 | 4714.34 |
| COV(E,P) | 27.88 | 397.92 | 124.59 |
| R(E,P) | 0.154 | 0.463 | 0.337 |
| ** N | 39501. | 5045. | 44546. |
| E(SXE) | 4218.56 | 1328.11 | 3891.21 |
| E(S)XE(E) | 4192.54 | 1067.88 | 3760.43 |
| COV(S,E) | 26.02 | 260.28 | 130.79 |
| R(S,E) | 0.484 | 0.768 | 0.699 |
| ** N | 36456. | 3645. | 40101. |
| E(SXP) | 3354.79 | 721.31 | 3115.42 |
| E(S)XE(P) | 3354.78 | 595.23 | 3015.23 |
| COV(S,P) | 0.01 | 126.11 | 100.19 |
| R(S,P) | 0.0 | 0.374 | 0.311 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 41: TT DIESEL

(RECORD COUNT = 27314, OPERATING TIME = 6.56 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7654. | 19660. | 27314. |
| MEAN | 90.67 | 45.68 | 58.29 |
| MEDIAN | 93.96 | 53.79 | 70.41 |
| STD DEV | 13.23 | 37.15 | 38.09 |
| % ACCEL | 9.04 | 14.28 | 12.81 |
| % CRUISE | 81.67 | 41.36 | 52.63 |
| % DECEL | 8.89 | 12.52 | 11.50 |
| % IDLE | 0.41 | 31.85 | 23.05 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 5507. | 13229. | 18736. |
| TOTAL N | 7614. | 19598. | 27212. |
| MEAN | 32.46 | 25.25 | 27.37 |
| MEDIAN | 29.35 | 13.16 | 20.62 |
| STD DEV | 21.64 | 29.63 | 27.72 |
| % ACCEL | 26.99 | 16.39 | 19.36 |
| % CRUISE | 25.56 | 40.50 | 36.32 |
| % DECEL | 26.08 | 16.29 | 19.03 |
| % MOTOR | 21.37 | 26.81 | 25.29 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7614. | 19598. | 27212. |
| MEAN | 50.32 | 20.20 | 28.62 |
| MEDIAN | 52.00 | 21.44 | 31.06 |
| STD DEV | 6.64 | 16.80 | 19.96 |
| % ZERO | 0.0 | 25.50 | 18.37 |
| % ACCEL | 10.80 | 22.17 | 18.99 |
| % CRUISE | 81.59 | 35.99 | 48.75 |
| % DECEL | 7.62 | 15.50 | 13.29 |
| % IDLE | 0.0 | 26.34 | 18.97 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 5533. | 13280. | 18813. |
| E(EXP) | 2926.98 | 1744.14 | 2092.00 |
| E(E)XE(P) | 2947.63 | 979.42 | 1480.47 |
| COV(E,P) | -20.65 | 764.79 | 611.56 |
| R(E,P) | -0.074 | 0.645 | 0.528 |
| ** N | 7654. | 19660. | 27314. |
| E(SXE) | 4630.70 | 1434.99 | 2330.50 |
| E(S)XE(E) | 4561.71 | 921.52 | 1668.08 |
| COV(S,E) | 69.00 | 513.50 | 662.45 |
| R(S,E) | 0.761 | 0.821 | 0.869 |
| ** N | 5533. | 13280. | 18813. |
| E(SXP) | 1596.64 | 650.11 | 928.49 |
| E(S)XE(P) | 1633.02 | 418.02 | 724.88 |
| COV(S,P) | -36.39 | 232.11 | 203.62 |
| R(S,P) | -0.259 | 0.448 | 0.341 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 45: TT DIESEL

(RECORD COUNT = 127528, OPERATING TIME = 30.61 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 33902. | 93626. | 127528. |
| MEAN | 95.01 | 40.45 | 54.96 |
| MEDIAN | 98.75 | 17.38 | 77.54 |
| STD DEV | 13.64 | 42.83 | 44.46 |
| % ACCEL | 7.86 | 13.76 | 12.18 |
| % CRUISE | 86.54 | 29.61 | 44.80 |
| % DECEL | 4.83 | 8.45 | 7.49 |
| % IDLE | 0.77 | 48.77 | 35.53 |

### POWER

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| * | N | 26426. | 67457. | 93883. |
| | TOTAL N | 33536. | 92194. | 125730. |
| | MEAN | 54.38 | 15.94 | 26.76 |
| | MEDIAN | 57.76 | 8.79 | 8.07 |
| | STD DEV | 24.84 | 26.83 | 31.46 |
| | % ACCEL | 21.38 | 10.75 | 13.58 |
| | % CRUISE | 36.07 | 53.23 | 48.65 |
| | % DECEL | 24.67 | 14.03 | 16.87 |
| | % MOTOR | 17.88 | 21.99 | 20.89 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 33536. | 92194. | 125730. |
| MEAN | 40.33 | 8.73 | 17.16 |
| MEDIAN | 47.06 | 0.99 | 9.75 |
| STD DEV | 13.55 | 12.03 | 18.72 |
| % ZERO | 0.34 | 48.85 | 35.91 |
| % ACCEL | 12.52 | 12.04 | 12.17 |
| % CRUISE | 77.48 | 30.93 | 43.34 |
| % DECEL | 9.57 | 7.18 | 7.82 |
| % IDLE | 0.43 | 49.85 | 36.67 |

### INTERACTION STATISTICS

| | | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|---|
| ** | N | 26535. | 67873. | 94408. |
| | E(EXP) | 5233.23 | 1305.72 | 2409.62 |
| | E(E)XE(P) | 5209.30 | 458.20 | 1272.75 |
| | COV(E,P) | 23.92 | 847.52 | 1136.88 |
| | R(E,P) | 0.076 | 0.760 | 0.771 |
| ** | N | 33902. | 93626. | 127528. |
| | E(SXE) | 3888.47 | 773.83 | 1601.83 |
| | E(S)XE(E) | 3812.76 | 357.28 | 943.00 |
| | COV(S,E) | 75.72 | 416.55 | 658.83 |
| | R(S,E) | 0.408 | 0.808 | 0.795 |
| ** | N | 26535. | 67873. | 94408. |
| | E(SXP) | 2204.67 | 341.67 | 865.30 |
| | E(S)XE(P) | 2201.64 | 115.08 | 443.49 |
| | COV(S,P) | 3.03 | 226.59 | 421.81 |
| | R(S,P) | 0.009 | 0.700 | 0.691 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 46: TT DIESEL

(RECORD COUNT = 31820, OPERATING TIME = 7.64 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14760. | 17060. | 31820. |
| MEAN | 85.65 | 48.62 | 65.80 |
| MEDIAN | 87.01 | 59.90 | 80.07 |
| STD DEV | 13.29 | 38.76 | 35.05 |
| % ACCEL | 9.20 | 18.50 | 14.19 |
| % CRUISE | 80.88 | 33.50 | 55.45 |
| % DECEL | 9.76 | 18.71 | 14.56 |
| % IDLE | 0.16 | 29.29 | 15.80 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 12362. | 12234. | 24596. |
| TOTAL N | 14699. | 17031. | 31730. |
| MEAN | 62.41 | 31.71 | 47.14 |
| MEDIAN | 67.91 | 19.05 | 50.48 |
| STD DEV | 26.09 | 34.41 | 34.15 |
| % ACCEL | 29.57 | 22.54 | 25.80 |
| % CRUISE | 30.55 | 36.62 | 33.81 |
| % DECEL | 29.02 | 20.44 | 24.42 |
| % MOTOR | 10.86 | 20.40 | 15.98 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 14699. | 17031. | 31730. |
| MEAN | 47.14 | 14.40 | 29.57 |
| MEDIAN | 50.75 | 14.27 | 28.84 |
| STD DEV | 10.20 | 12.09 | 19.83 |
| % ZERO | 0.02 | 23.76 | 12.76 |
| % ACCEL | 9.97 | 23.12 | 17.03 |
| % CRUISE | 82.81 | 37.47 | 58.47 |
| % DECEL | 7.20 | 15.14 | 11.46 |
| % IDLE | 0.02 | 24.27 | 13.03 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 12421. | 12260. | 24681. |
| E(EXP) | 5536.68 | 2395.70 | 3976.43 |
| E(E)XE(P) | 5471.68 | 1389.75 | 3107.51 |
| COV(E,P) | 65.01 | 1006.03 | 868.96 |
| R(E,P) | 0.227 | 0.706 | 0.682 |
| ** N | 14760. | 17060. | 31820. |
| E(SXE) | 4112.02 | 1074.54 | 2483.51 |
| E(S)XE(E) | 4041.45 | 699.64 | 1947.33 |
| COV(S,E) | 70.57 | 374.92 | 536.19 |
| R(S,E) | 0.508 | 0.798 | 0.769 |
| ** N | 12421. | 12260. | 24681. |
| E(SXP) | 3037.69 | 635.05 | 1844.20 |
| E(S)XE(P) | 3039.21 | 399.60 | 1450.69 |
| COV(S,P) | -1.52 | 235.47 | 393.52 |
| R(S,P) | -0.007 | 0.539 | 0.547 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 51: TT DIESEL

(RECORD COUNT = 42524, OPERATING TIME = 10.21 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 18396. | 24128. | 42524. |
| MEAN | 74.18 | 52.33 | 61.78 |
| MEDIAN | 76.19 | 64.19 | 72.30 |
| STD DEV | 19.39 | 37.76 | 33.00 |
| % ACCEL | 8.56 | 16.84 | 13.26 |
| % CRUISE | 80.77 | 43.73 | 59.76 |
| % DECEL | 8.31 | 14.1 | 11.71 |
| % IDLE | 2.36 | 25.12 | 15.27 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 10889. | 12969. | 23858. |
| TOTAL N | 18394. | 24108. | 42502. |
| MEAN | 26.57 | 19.01 | 22.46 |
| MEDIAN | 21.51 | 4.90 | 15.03 |
| STD DEV | 22.01 | 25.59 | 24.32 |
| % ACCEL | 12.87 | 12.10 | 12.43 |
| % CRUISE | 36.33 | 34.49 | 35.29 |
| % DECEL | 13.85 | 12.34 | 12.99 |
| % MOTOR | 36.95 | 41.08 | 39.29 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 18394. | 24108. | 42502. |
| MEAN | 46.94 | 19.19 | 31.20 |
| MEDIAN | 51.97 | 17.74 | 32.63 |
| STD DEV | 13.15 | 16.48 | 20.45 |
| % ZERO | 0.64 | 16.87 | 9.85 |
| % ACCEL | 25.38 | 28.07 | 26.90 |
| % CRUISE | 51.82 | 29.65 | 39.25 |
| % DECEL | 21.96 | 23.03 | 22.57 |
| % IDLE | 0.83 | 19.26 | 11.28 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 10890. | 12976. | 23866. |
| E(EXP) | 2031.18 | 1426.27 | 1702.28 |
| E(E)XE(P) | 1976.35 | 768.23 | 1255.74 |
| COV(E,P) | 54.84 | 658.09 | 446.56 |
| R(E,P) | 0.126 | 0.612 | 0.487 |
| ** N | 18396. | 24128. | 42524. |
| E(SXE) | 3627.22 | 1438.57 | 2385.39 |
| E(S)XE(E) | 3482.91 | 1002.80 | 1926.44 |
| COV(S,E) | 144.32 | 435.78 | 458.96 |
| R(S,E) | 0.560 | 0.699 | 0.678 |
| ** N | 10890. | 12976. | 23866. |
| E(SXP) | 1278.80 | 473.48 | 840.94 |
| E(S)XE(P) | 1273.12 | 287.87 | 675.91 |
| COV(S,P) | 5.68 | 185.63 | 165.04 |
| R(S,P) | 0.020 | 0.428 | 0.304 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 27: TT DIESEL

(RECORD COUNT = 78660, OPERATING TIME = 18.88 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 8177. | 70483. | 78660. |
| MEAN | 69.67 | 15.81 | 21.41 |
| MEDIAN | 74.44 | 0.34 | 0.49 |
| STD DEV | 25.78 | 30.53 | 34.27 |
| % ACCEL | 15.91 | 7.21 | 8.10 |
| % CRUISE | 63.06 | 11.59 | 16.85 |
| % DECEL | 16.03 | 7.39 | 8.27 |
| % IDLE | 5.00 | 73.82 | 66.79 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 6980. | 66508. | 73488. |
| TOTAL N | 7984. | 70193. | 78177. |
| MEAN | 65.32 | 11.19 | 16.33 |
| MEDIAN | 83.78 | 3.19 | 3.48 |
| STD DEV | 34.36 | 25.48 | 30.85 |
| % ACCEL | 22.08 | 8.93 | 10.27 |
| % CRUISE | 47.73 | 78.82 | 75.65 |
| % DECEL | 20.99 | 8.88 | 10.12 |
| % MOTOR | 9.19 | 3.37 | 3.96 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7984. | 70193. | 78177. |
| MEAN | 32.95 | 3.93 | 6.89 |
| MEDIAN | 32.88 | 0.70 | 0.78 |
| STD DEV | 15.34 | 7.30 | 12.21 |
| % ZERO | 2.13 | 70.21 | 63.26 |
| % ACCEL | 36.12 | 11.39 | 13.92 |
| % CRUISE | 29.32 | 8.21 | 10.37 |
| % DECEL | 32.40 | 10.48 | 12.72 |
| % IDLE | 2.15 | 69.91 | 62.99 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 7164. | 66772. | 73936. |
| E(EXP) | 4954.57 | 704.00 | 1115.85 |
| E(E)XE(P) | 4580.05 | 147.72 | 307.55 |
| COV(E,P) | 374.57 | 556.28 | 808.32 |
| R(E,P) | 0.409 | 0.759 | 0.788 |
| ** N | 8177. | 70483. | 78660. |
| E(SXE) | 2529.18 | 255.49 | 491.85 |
| E(S)XE(E) | 2307.42 | 62.63 | 149.71 |
| COV(S,E) | 221.78 | 192.86 | 342.15 |
| R(S,E) | 0.556 | 0.862 | 0.809 |
| ** N | 7164. | 66772. | 73936. |
| E(SXP) | 2323.07 | 152.49 | 362.80 |
| E(S)XE(P) | 2192.53 | 37.19 | 102.90 |
| COV(S,P) | 130.56 | 115.30 | 259.91 |
| R(S,P) | 0.242 | 0.665 | 0.696 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 34: TT DIESEL

(RECORD COUNT = 56583, OPERATING TIME = 13.58 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 5390. | 51193. | 56583. |
| MEAN | 36.38 | 12.20 | 14.50 |
| MEDIAN | 39.77 | 0.87 | 1.28 |
| STD DEV | 21.01 | 17.17 | 18.96 |
| % ACCEL | 6.16 | 6.61 | 6.57 |
| % CRUISE | 72.95 | 31.16 | 35.15 |
| % DECEL | 6.70 | 6.66 | 6.66 |
| % IDLE | 14.18 | 55.56 | 51.62 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 4301. | 43040. | 47341. |
| TOTAL N | 5387. | 51151. | 56538. |
| MEAN | 57.42 | 24.06 | 27.09 |
| MEDIAN | 67.04 | 15.68 | 16.99 |
| STD DEV | 33.48 | 27.65 | 29.82 |
| % ACCEL | 24.11 | 21.85 | 22.07 |
| % CRUISE | 37.74 | 45.89 | 45.11 |
| % DECEL | 22.72 | 20.89 | 21.07 |
| % MOTOR | 15.43 | 11.37 | 11.75 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 5387. | 51151. | 56538. |
| MEAN | 25.31 | 7.17 | 8.90 |
| MEDIAN | 28.08 | 2.27 | 2.82 |
| STD DEV | 13.74 | 9.52 | 11.33 |
| % ZERO | 8.78 | 43.52 | 40.21 |
| % ACCEL | 19.55 | 18.64 | 18.72 |
| % CRUISE | 55.08 | 25.70 | 28.50 |
| % DECEL | 16.61 | 13.35 | 13.66 |
| % IDLE | 8.76 | 42.31 | 39.12 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 4303. | 43075. | 47378. |
| E(EXP) | 2626.82 | 579.89 | 765.79 |
| E(E)XE(P) | 2146.64 | 256.93 | 354.99 |
| COV(E,P) | 480.29 | 322.97 | 410.82 |
| R(E,P) | 0.654 | 0.696 | 0.728 |
| ** N | 5390. | 51193. | 56583. |
| E(SXE) | 1159.29 | 213.37 | 308.00 |
| E(S)XE(E) | 918.35 | 86.93 | 128.36 |
| COV(S,E) | 240.99 | 131.44 | 179.64 |
| R(S,E) | 0.823 | 0.800 | 0.832 |
| ** N | 4303. | 43075. | 47378. |
| E(SXP) | 1728.00 | 312.84 | 441.37 |
| E(S)XE(P) | 1467.32 | 149.35 | 215.75 |
| COV(S,P) | 260.75 | 163.50 | 225.62 |
| R(S,P) | 0.538 | 0.635 | 0.667 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 42: TT DIESEL

(RECORD COUNT = 60539, OPERATING TIME = 14.53 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 23055. | 37484. | 60539. |
| MEAN | 57.28 | 32.56 | 41.58 |
| MEDIAN | 69.20 | 3.42 | 42.80 |
| STD DEV | 38.99 | 38.14 | 40.30 |
| % ACCEL | 23.70 | 16.74 | 19.40 |
| % CRUISE | 29.59 | 17.84 | 22.34 |
| % DECEL | 23.57 | 16.58 | 19.26 |
| % IDLE | 23.14 | 48.83 | 39.01 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 10448. | 20295. | 30743. |
| TOTAL N | 22964. | 37103. | 60067. |
| MEAN | 5.08 | 4.16 | 4.47 |
| MEDIAN | 3.73 | 3.21 | 3.37 |
| STD DEV | 10.77 | 11.43 | 11.22 |
| % ACCEL | 10.07 | 9.82 | 9.91 |
| % CRUISE | 30.35 | 39.68 | 36.11 |
| % DECEL | 10.40 | 10.46 | 10.44 |
| % MOTOR | 49.18 | 40.04 | 43.53 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 22964. | 37103. | 60067. |
| MEAN | 23.28 | 9.03 | 14.48 |
| MEDIAN | 25.01 | 4.13 | 10.32 |
| STD DEV | 17.47 | 10.69 | 15.33 |
| % ZERO | 17.03 | 40.31 | 31.41 |
| % ACCEL | 14.23 | 14.63 | 14.48 |
| % CRUISE | 54.92 | 30.59 | 39.89 |
| % DECEL | 13.77 | 12.78 | 13.16 |
| % IDLE | 17.09 | 42.00 | 32.47 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 10519. | 20632. | 31151. |
| E(EXP) | 302.58 | 70.99 | 149.20 |
| E(E)XE(P) | 228.39 | 58.79 | 109.80 |
| COV(E,P) | 74.19 | 12.21 | 39.31 |
| R(E,P) | 0.163 | 0.035 | 0.093 |
| ** N | 23055. | 37484. | 60539. |
| E(SXE) | 1855.92 | 622.54 | 1092.25 |
| E(S)XE(E) | 1331.12 | 291.96 | 604.49 |
| COV(S,E) | 524.82 | 330.59 | 487.77 |
| R(S,E) | 0.767 | 0.810 | 0.788 |
| ** N | 10519. | 20632. | 31151. |
| E(SXP) | 131.73 | 24.50 | 60.71 |
| E(S)XE(P) | 95.48 | 17.32 | 40.78 |
| COV(S,P) | 36.25 | 7.19 | 19.93 |
| R(S,P) | 0.177 | 0.071 | 0.119 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 53: TT DIESEL

(RECORD COUNT = 47740, OPERATING TIME = 11.46 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7198. | 40542. | 47740. |
| MEAN | 64.55 | 25.56 | 31.44 |
| MEDIAN | 70.44 | 0.75 | 2.14 |
| STD DEV | 27.17 | 34.21 | 36.06 |
| % ACCEL | 14.87 | 10.55 | 11.20 |
| % CRUISE | 62.93 | 21.81 | 27.97 |
| % DECEL | 15.58 | 10.27 | 11.07 |
| % IDLE | 6.62 | 57.37 | 49.76 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 4719. | 33857. | 38576. |
| TOTAL N | 7129. | 40435. | 47564. |
| MEAN | 59.07 | 16.87 | 22.03 |
| MEDIAN | 70.21 | 3.75 | 4.17 |
| STD DEV | 34.07 | 28.90 | 32.66 |
| % ACCEL | 14.01 | 11.71 | 12.05 |
| % CRUISE | 42.28 | 64.51 | 61.18 |
| % DECEL | 13.80 | 11.24 | 11.62 |
| % MOTOR | 29.91 | 12.55 | 15.15 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 7129. | 40435. | 47564. |
| MEAN | 31.69 | 8.95 | 12.36 |
| MEDIAN | 32.38 | 0.91 | 4.52 |
| STD DEV | 14.90 | 11.73 | 14.70 |
| % ZERO | 3.83 | 54.66 | 47.04 |
| % ACCEL | 31.20 | 17.08 | 19.19 |
| % CRUISE | 38.31 | 13.93 | 17.58 |
| % DECEL | 26.74 | 14.53 | 16.36 |
| % IDLE | 3.76 | 54.46 | 46.86 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 4771. | 33932. | 38703. |
| E(EXP) | 4464.00 | 1087.49 | 1503.71 |
| E(E)XE(P) | 3850.82 | 341.21 | 568.78 |
| COV(E,P) | 613.30 | 746.30 | 934.93 |
| R(E,P) | 0.627 | 0.787 | 0.805 |
| ** N | 7198. | 40542. | 47740. |
| E(SXE) | 2333.85 | 584.63 | 848.37 |
| E(S)XE(E) | 2051.15 | 229.09 | 389.85 |
| COV(S,E) | 282.74 | 355.55 | 458.53 |
| R(S,E) | 0.695 | 0.884 | 0.862 |
| ** N | 4771. | 33932. | 38703. |
| E(SXP) | 2079.93 | 346.04 | 559.77 |
| E(S)XE(P) | 1839.31 | 113.59 | 215.00 |
| COV(S,P) | 240.68 | 232.45 | 344.78 |
| R(S,P) | 0.458 | 0.745 | 0.754 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 55: TT DIESEL

(RECORD COUNT = 95754, OPERATING TIME = 22.98 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 26774. | 68980. | 95754. |
| MEAN | 56.88 | 26.19 | 34.77 |
| MEDIAN | 71.23 | 0.68 | 4.25 |
| STD DEV | 36.81 | 35.83 | 38.64 |
| % ACCEL | 13.73 | 9.00 | 10.32 |
| % CRUISE | 48.33 | 22.17 | 29.48 |
| % DECEL | 14.15 | 9.29 | 10.65 |
| % IDLE | 23.80 | 59.54 | 49.55 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 16086. | 48946. | 65032. |
| TOTAL N | 26677. | 68779. | 95456. |
| MEAN | 36.12 | 10.10 | 16.54 |
| MEDIAN | 28.38 | 3.17 | 3.63 |
| STD DEV | 34.66 | 23.41 | 28.90 |
| % ACCEL | 11.93 | 7.83 | 8.97 |
| % CRUISE | 40.22 | 59.73 | 54.28 |
| % DECEL | 13.57 | 7.47 | 9.18 |
| % MOTOR | 34.28 | 24.97 | 27.57 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 26677. | 68779. | 95456. |
| MEAN | 31.64 | 10.00 | 16.05 |
| MEDIAN | 36.65 | 0.94 | 4.89 |
| STD DEV | 21.95 | 14.55 | 19.53 |
| % LEAD | 19.34 | 52.58 | 43.29 |
| % ACCEL | 24.01 | 13.99 | 16.79 |
| % CRUISE | 32.54 | 20.01 | 23.51 |
| % DECEL | 24.79 | 14.50 | 17.37 |
| % IDLE | 18.66 | 51.50 | 42.33 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 16145. | 49065. | 65210. |
| E(EXP) | 2962.37 | 708.51 | 1266.52 |
| E(E)XE(P) | 1830.70 | 133.32 | 371.92 |
| COV(E,P) | 1131.74 | 575.20 | 894.62 |
| R(E,P) | 0.775 | 0.825 | 0.836 |
| ** N | 26774. | 68980. | 95754. |
| E(SXE) | 2523.10 | 697.92 | 1208.27 |
| E(S)XE(E) | 1804.35 | 262.68 | 559.59 |
| COV(S,E) | 718.78 | 435.25 | 648.69 |
| R(S,E) | 0.887 | 0.834 | 0.858 |
| ** N | 16145. | 49065. | 65210. |
| E(SXP) | 1666.63 | 280.95 | 624.02 |
| E(S)XE(P) | 1038.22 | 56.48 | 187.44 |
| COV(S,P) | 628.45 | 224.48 | 436.59 |
| R(S,P) | 0.738 | 0.765 | 0.787 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 56: TT DIESEL

(RECORD COUNT = 110117, OPERATING TIME = 26.43 HRS)

| FPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4940. | 105177. | 110117. |
| MEAN | 47.38 | 14.52 | 15.59 |
| MEDIAN | 50.34 | 0.67 | 0.74 |
| STD DEV | 19.00 | 19.65 | 20.76 |
| % ACCEL | 4.14 | 6.30 | 6.20 |
| % CRUISE | 86.57 | 28.44 | 31.06 |
| % DECEL | 3.79 | 5.76 | 5.67 |
| % IDLE | 5.50 | 59.50 | 57.07 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 4140. | 88562. | 92702. |
| TOTAL N | 4930. | 104775. | 109705. |
| MEAN | 57.53 | 20.42 | 22.08 |
| MEDIAN | 61.40 | 4.05 | 4.22 |
| STD DEV | 31.86 | 31.02 | 31.99 |
| % ACCEL | 11.44 | 9.27 | 9.37 |
| % CRUISE | 62.62 | 67.36 | 67.15 |
| % DECEL | 12.39 | 10.60 | 10.68 |
| % MOTOR | 13.55 | 12.76 | 12.80 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 4930. | 104775. | 109705. |
| MEAN | 36.99 | 12.15 | 13.27 |
| MEDIAN | 37.70 | 3.11 | 4.11 |
| STD DEV | 15.39 | 14.75 | 15.65 |
| % ZERO | 1.26 | 43.24 | 41.36 |
| % ACCEL | 14.02 | 18.33 | 18.13 |
| % CRUISE | 72.47 | 23.54 | 25.73 |
| % DECEL | 12.27 | 14.37 | 14.27 |
| % IDLE | 1.24 | 43.77 | 41.86 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 4147. | 88873. | 93020. |
| E(EXP) | 2931.68 | 752.58 | 849.73 |
| E(E)XE(P) | 2781.04 | 273.17 | 329.69 |
| COV(E,P) | 150.67 | 479.41 | 520.04 |
| R(E,P) | 0.251 | 0.781 | 0.773 |
| ** N | 4940. | 105177. | 110117. |
| E(SXE) | 1908.67 | 413.49 | 480.57 |
| E(S)XE(E) | 1754.36 | 176.08 | 211.83 |
| COV(S,E) | 154.34 | 237.41 | 268.74 |
| R(S,E) | 0.533 | 0.816 | 0.824 |
| ** N | 4147. | 88873. | 93020. |
| E(SXP) | 2405.04 | 493.01 | 578.25 |
| E(S)XE(P) | 2192.74 | 201.93 | 246.05 |
| COV(S,P) | 212.35 | 291.08 | 332.20 |
| R(S,P) | 0.448 | 0.660 | 0.675 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 60: TT DIESEL

(RECORD COUNT = 55157, OPERATING TIME = 13.24 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 12052. | 43105. | 55157. |
| MEAN | 41.50 | 18.07 | 23.19 |
| MEDIAN | 46.83 | 0.77 | 6.26 |
| STD DEV | 24.38 | 25.02 | 26.70 |
| % ACCEL | 9.74 | 7.34 | 7.87 |
| % CRUISE | 63.41 | 27.31 | 35.21 |
| % DECEL | 10.45 | 7.90 | 8.46 |
| % IDLE | 16.40 | 57.45 | 48.47 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 9647. | 39021. | 48668. |
| TOTAL N | 12051. | 43046. | 55097. |
| MEAN | 34.89 | 14.52 | 18.56 |
| MEDIAN | 29.81 | 4.89 | 8.02 |
| STD DEV | 29.82 | 21.40 | 24.68 |
| % ACCEL | 20.76 | 17.11 | 17.91 |
| % CRUISE | 41.90 | 58.45 | 54.83 |
| % DECEL | 21.77 | 18.13 | 18.93 |
| % MOTOR | 15.57 | 6.31 | 8.34 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 12051. | 43046. | 55097. |
| MEAN | 25.88 | 8.92 | 12.63 |
| MEDIAN | 25.33 | 5.57 | 6.60 |
| STD DEV | 16.67 | 10.21 | 13.83 |
| % ZERO | 4.20 | 17.71 | 14.76 |
| % ACCEL | 25.13 | 20.12 | 21.21 |
| % CRUISE | 47.27 | 43.71 | 44.49 |
| % DECEL | 21.87 | 16.76 | 17.88 |
| % IDLE | 5.73 | 19.41 | 16.42 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 9648. | 39080. | 48728. |
| E(EXP) | 1900.98 | 567.78 | 831.74 |
| E(E)XE(P) | 1411.95 | 225.73 | 379.99 |
| COV(E,P) | 489.09 | 342.07 | 451.76 |
| R(E,P) | 0.629 | 0.657 | 0.688 |
| ** N | 12052. | 43105. | 55157. |
| E(SXE) | 1387.90 | 369.45 | 591.98 |
| E(S)XE(E) | 1073.43 | 161.14 | 292.66 |
| COV(S,E) | 314.50 | 208.32 | 299.33 |
| R(S,E) | 0.770 | 0.811 | 0.807 |
| ** N | 9648. | 39080. | 48728. |
| E(SXP) | 1144.40 | 235.80 | 415.69 |
| E(S)XE(P) | 892.59 | 117.09 | 214.00 |
| COV(S,P) | 251.83 | 118.70 | 201.70 |
| R(S,P) | 0.481 | 0.557 | 0.594 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 65: TT DIESEL

(RECORD COUNT = 39947, OPERATING TIME = 9.59 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 29639. | 10308. | 39947. |
| MEAN | 78.39 | 39.08 | 68.24 |
| MEDIAN | 89.24 | 37.59 | 82.56 |
| STD DEV | 29.77 | 35.38 | 35.72 |
| % ACCEL | 4.29 | 13.56 | 6.68 |
| % CRUISE | 83.66 | 42.13 | 72.94 |
| % DECEL | 4.28 | 12.79 | 6.48 |
| % IDLE | 7.77 | 31.52 | 13.90 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 28359. | 9290. | 37649. |
| TOTAL N | 29609. | 10297. | 39906. |
| MEAN | 70.68 | 29.59 | 60.54 |
| MEDIAN | 85.87 | 21.67 | 72.50 |
| STD DEV | 31.51 | 31.04 | 36.05 |
| % ACCEL | 21.94 | 24.20 | 22.52 |
| % CRUISE | 52.82 | 46.65 | 51.23 |
| % DECEL | 22.78 | 24.95 | 23.34 |
| % MOTOR | 2.47 | 4.20 | 2.91 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 29609. | 10297. | 39906. |
| MEAN | 37.80 | 11.63 | 31.05 |
| MEDIAN | 43.72 | 10.27 | 36.90 |
| STD DEV | 14.94 | 10.15 | 17.98 |
| % ZERO | 6.56 | 26.73 | 11.76 |
| % ACCEL | 29.14 | 25.19 | 28.12 |
| % CRUISE | 39.70 | 27.46 | 36.55 |
| % DECEL | 24.96 | 22.02 | 24.20 |
| % IDLE | 6.20 | 25.33 | 11.13 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 28386. | 9301. | 37687. |
| E(EXP) | 6266.02 | 1727.12 | 5145.83 |
| E(E)XE(P) | 5562.07 | 1068.21 | 4127.67 |
| COV(E,P) | 703.97 | 658.99 | 1018.18 |
| R(E,P) | 0.743 | 0.601 | 0.775 |
| ** N | 29639. | 10308. | 39947. |
| E(SXE) | 3364.78 | 730.61 | 2685.05 |
| E(S)XE(E) | 2963.59 | 454.23 | 2119.02 |
| COV(S,E) | 401.20 | 276.40 | 566.04 |
| R(S,E) | 0.899 | 0.767 | 0.878 |
| ** N | 28386. | 9301. | 37687. |
| E(SXP) | 3034.22 | 499.49 | 2408.66 |
| E(S)XE(P) | 2690.77 | 326.82 | 1900.93 |
| COV(S,P) | 343.46 | 172.70 | 507.74 |
| R(S,P) | 0.726 | 0.544 | 0.774 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 90: BUSES

(RECORD COUNT = 62267, OPERATING TIME = 14.94 HRS)

| | RPM | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 4064. | 58203. | 62267. |
| MEAN | 62.44 | 35.30 | 37.07 |
| MEDIAN | 64.81 | 42.00 | 44.01 |
| STD DEV | 19.74 | 27.44 | 27.82 |
| % ACCEL | 8.93 | 13.00 | 12.74 |
| % CRUISE | 78.93 | 49.22 | 51.16 |
| % DECEL | 7.41 | 9.15 | 9.04 |
| % IDLE | 4.73 | 28.63 | 27.07 |

| | POWER | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| * N | 3207. | 38729. | 41936. |
| TOTAL N | 4020. | 57595. | 61615. |
| MEAN | 72.32 | 39.16 | 41.70 |
| MEDIAN | 88.44 | 24.08 | 30.28 |
| STD DEV | 33.53 | 41.27 | 41.67 |
| % ACCEL | 18.93 | 14.65 | 14.92 |
| % CRUISE | 45.97 | 42.14 | 42.39 |
| % DECEL | 19.85 | 15.60 | 15.87 |
| % MOTOR | 15.25 | 27.62 | 26.82 |

| | SPEED | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| N | 4020. | 57595. | 61615. |
| MEAN | 47.29 | 20.09 | 21.87 |
| MEDIAN | 51.63 | 21.67 | 23.17 |
| STD DEV | 13.74 | 13.82 | 15.36 |
| % ZERO | 2.64 | 16.21 | 15.33 |
| % ACCEL | 27.11 | 34.21 | 33.75 |
| % CRUISE | 52.56 | 25.37 | 27.14 |
| % DECEL | 17.81 | 24.37 | 23.94 |
| % IDLE | 2.51 | 16.05 | 15.17 |

| | INTERACTION STATISTICS | | |
|---|---|---|---|
| | FREEWAY | NON-FREEWAY | COMBINED |
| ** N | 3215. | 38810. | 42025. |
| E(EXP) | 4830.46 | 2118.25 | 2325.73 |
| E(E)XE(P) | 4539.98 | 1221.97 | 1401.84 |
| COV(E,P) | 290.57 | 896.30 | 923.91 |
| R(E,P) | 0.425 | 0.740 | 0.740 |
| ** N | 4064. | 58203. | 62267. |
| E(SXE) | 3178.57 | 1019.08 | 1160.02 |
| E(S)XE(E) | 2956.56 | 713.35 | 814.79 |
| COV(S,E) | 222.07 | 305.73 | 345.24 |
| R(S,E) | 0.812 | 0.802 | 0.804 |
| ** N | 3215. | 38810. | 42025. |
| E(SXP) | 3540.47 | 931.85 | 1131.41 |
| E(S)XE(P) | 3398.39 | 644.58 | 783.73 |
| COV(S,P) | 142.13 | 287.27 | 347.68 |
| R(S,P) | 0.298 | 0.499 | 0.516 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 91: BUSES

(RECORD COUNT = 101382, OPERATING TIME = 24.33 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 101382. | 101382. |
| MEAN | | 31.10 | 31.10 |
| MEDIAN | | 28.14 | 28.14 |
| STD DEV | | 30.06 | 30.06 |
| % ACCEL | | 14.66 | 14.66 |
| % CRUISE | | 34.97 | 34.97 |
| % DECEL | | 13.25 | 13.25 |
| % ICLE | | 37.12 | 37.12 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 69823. | 69823. |
| TOTAL N | 0. | 101328. | 101328. |
| MEAN | | 29.73 | 29.73 |
| MEDIAN | | 11.26 | 11.26 |
| STD DEV | | 32.60 | 32.60 |
| % ACCEL | | 14.11 | 14.11 |
| % CRUISE | | 49.27 | 49.27 |
| % DECEL | | 9.17 | 9.17 |
| % MOTOR | | 27.45 | 27.45 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 101328. | 101328. |
| MEAN | | 13.55 | 13.55 |
| MEDIAN | | 13.00 | 13.00 |
| STD DEV | | 12.00 | 12.00 |
| % ZERO | | 23.11 | 23.11 |
| % ACCEL | | 31.42 | 31.42 |
| % CRUISE | | 18.35 | 18.35 |
| % DECEL | | 25.08 | 25.08 |
| % IDLE | | 25.14 | 25.14 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 69861. | 69861. |
| E(EXP) | | 1815.68 | 1815.68 |
| E(E)XE(P) | | 902.82 | 902.82 |
| COV(E,P) | | 912.88 | 912.88 |
| R(E,P) | | 0.868 | 0.868 |
| ** N | 0. | 101382. | 101382. |
| E(SXE) | | 699.27 | 699.27 |
| E(S)XE(E) | | 420.57 | 420.57 |
| COV(S,E) | | 278.71 | 278.71 |
| R(S,E) | | 0.771 | 0.771 |
| ** N | 0. | 69861. | 69861. |
| E(SXP) | | 571.06 | 571.06 |
| E(S)XE(P) | | 304.15 | 304.15 |
| COV(S,P) | | 266.92 | 266.92 |
| R(S,P) | | 0.704 | 0.704 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR LA TRUCK 94: BUSES

(RECORD COUNT = 132561, OPERATING TIME = 31.81 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 37547. | 95014. | 132561. |
| MEAN | 57.26 | 37.85 | 43.35 |
| MEDIAN | 60.15 | 39.44 | 48.69 |
| STD DEV | 21.51 | 32.22 | 30.85 |
| % ACCEL | 7.00 | 19.66 | 16.07 |
| % CRUISE | 81.45 | 34.82 | 48.04 |
| % DECEL | 6.58 | 17.07 | 14.10 |
| % IDLE | 4.97 | 28.45 | 21.79 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 24513. | 58263. | 82776. |
| TOTAL N | 37535. | 94922. | 132457. |
| MEAN | 65.49 | 38.50 | 46.49 |
| MEDIAN | 74.80 | 20.07 | 43.36 |
| STD DEV | 35.34 | 41.64 | 41.74 |
| % ACCEL | 13.02 | 14.24 | 13.89 |
| % CRUISE | 40.19 | 38.73 | 39.14 |
| % DECEL | 16.76 | 14.53 | 15.16 |
| % MOTOR | 30.03 | 32.50 | 31.80 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 37535. | 94922. | 132457. |
| MEAN | 43.85 | 16.28 | 24.09 |
| MEDIAN | 48.77 | 14.28 | 21.71 |
| STD DEV | 15.27 | 13.69 | 18.83 |
| % ZERO | 1.80 | 17.39 | 12.97 |
| % ACCEL | 18.70 | 29.95 | 26.79 |
| % CRUISE | 64.78 | 28.38 | 38.70 |
| % DECEL | 14.45 | 22.93 | 20.52 |
| % IDLE | 2.07 | 18.71 | 13.99 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 24523. | 58318. | 82841. |
| E(EXP) | 3999.25 | 2001.40 | 2592.82 |
| E(E)XE(P) | 3793.91 | 1121.38 | 1750.49 |
| COV(E,P) | 205.35 | 880.03 | 842.33 |
| R(E,P) | 0.258 | 0.656 | 0.622 |
| ** N | 37547. | 95014. | 132561. |
| E(SXE) | 2722.00 | 931.35 | 1438.54 |
| E(S)XE(E) | 2512.02 | 615.84 | 1044.02 |
| COV(S,E) | 209.99 | 315.52 | 394.52 |
| R(S,E) | 0.632 | 0.714 | 0.676 |
| ** N | 24523. | 58318. | 82841. |
| E(SXP) | 3013.56 | 847.54 | 1488.74 |
| E(S)XE(P) | 2873.31 | 496.24 | 1025.61 |
| COV(S,P) | 140.25 | 351.31 | 463.14 |
| R(S,P) | 0.244 | 0.592 | 0.541 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY
** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 80: BUSES

(RECORD COUNT = 115753, OPERATING TIME = 27.78 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 115753. | 115753. |
| MEAN | | 29.06 | 29.06 |
| MEDIAN | | -0.09 | -0.09 |
| STD DEV | | 36.48 | 36.48 |
| % ACCEL | | 15.79 | 15.79 |
| % CRUISE | | 18.06 | 18.06 |
| % DECEL | | 14.77 | 14.77 |
| % IDLE | | 51.38 | 51.38 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 115236. | 115236. |
| MEAN | | 5.03 | 5.03 |
| MEDIAN | | 3.30 | 3.30 |
| STD DEV | | 5.44 | 5.44 |
| % ZERO | | 34.95 | 34.95 |
| % ACCEL | | 23.27 | 23.27 |
| % CRUISE | | 18.40 | 18.40 |
| % DECEL | | 20.10 | 20.10 |
| % IDLE | | 38.23 | 38.23 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 85553. | 85553. |
| TOTAL N | 0. | 115236. | 115236. |
| MEAN | | 18.85 | 18.85 |
| MEDIAN | | 4.05 | 4.05 |
| STD DEV | | 27.33 | 27.33 |
| % ACCEL | | 13.27 | 13.27 |
| % CRUISE | | 53.16 | 53.16 |
| % DECEL | | 14.78 | 14.78 |
| % MOTOR | | 18.80 | 18.80 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 85795. | 85795. |
| E(EXP) | | 1319.19 | 1319.19 |
| E(E)XE(P) | | 513.75 | 513.75 |
| COV(E,P) | | 805.44 | 805.44 |
| R(E,P) | | 0.766 | 0.766 |
| ** N | 0. | 115753. | 115753. |
| E(SXE) | | 265.11 | 265.11 |
| E(S)XE(E) | | 146.26 | 146.26 |
| COV(S,E) | | 118.86 | 118.86 |
| R(S,E) | | 0.596 | 0.596 |
| ** N | 0. | 85795. | 85795. |
| E(SXP) | | 125.12 | 125.12 |
| E(S)XE(P) | | 69.42 | 69.42 |
| COV(S,P) | | 55.70 | 55.70 |
| R(S,P) | | 0.414 | 0.414 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 81: BUSES

(RECORD COUNT = 220924, OPERATING TIME = 53.02 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 43. | 220881. | 220924. |
| MEAN | 44.60 | 28.95 | 28.95 |
| MEDIAN | 55.00 | 6.73 | 6.74 |
| STD DEV | 37.55 | 32.59 | 32.59 |
| % ACCEL | 20.93 | 13.13 | 13.13 |
| % CRUISE | 37.21 | 26.50 | 26.50 |
| % DECEL | 11.63 | 13.58 | 13.58 |
| % IDLE | 30.23 | 46.79 | 46.79 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 34. | 170486. | 170520. |
| TOTAL N | 43. | 220776. | 220819. |
| MEAN | 65.88 | 30.26 | 30.26 |
| MEDIAN | 89.55 | 4.38 | 4.38 |
| STD DEV | 42.93 | 39.72 | 39.73 |
| % ACCEL | 18.60 | 16.46 | 16.46 |
| % CRUISE | 60.47 | 52.07 | 52.08 |
| % DECEL | 11.63 | 16.52 | 16.52 |
| % MOTOR | 9.30 | 14.94 | 14.94 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 43. | 220776. | 220819. |
| MEAN | 12.70 | 10.34 | 10.34 |
| MEDIAN | 14.75 | 9.19 | 9.19 |
| STD DEV | 8.90 | 9.81 | 9.81 |
| % ZERO | 18.60 | 28.17 | 28.17 |
| % ACCEL | 37.21 | 26.01 | 26.01 |
| % CRUISE | 34.88 | 23.45 | 23.45 |
| % DECEL | 9.30 | 21.47 | 21.46 |
| % IDLE | 18.60 | 29.07 | 29.07 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 34. | 170522. | 170556. |
| E(EXP) | 4851.76 | 1974.56 | 1975.14 |
| E(E)XE(P) | 3441.38 | 820.76 | 821.10 |
| COV(E,P) | 1453.12 | 1153.81 | 1154.05 |
| R(E,P) | 0.902 | 0.840 | 0.840 |
| ** N | 43. | 220881. | 220924. |
| E(SXE) | 733.49 | 505.48 | 505.52 |
| E(S)XE(E) | 564.01 | 297.60 | 297.65 |
| COV(S,E) | 173.51 | 207.88 | 207.86 |
| R(S,E) | 0.523 | 0.651 | 0.651 |
| ** N | 34. | 170522. | 170556. |
| E(SXP) | 1006.47 | 431.94 | 432.06 |
| E(S)XE(P) | 802.21 | 245.77 | 245.85 |
| COV(S,P) | 210.45 | 186.17 | 186.20 |
| R(S,P) | 0.526 | 0.513 | 0.513 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 82: BUSES

(RECORD COUNT = 162415, OPERATING TIME = 38.98 HRS)

### RPM

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3315. | 159100. | 162415. |
| MEAN | 62.32 | 23.66 | 24.45 |
| MEDIAN | 70.80 | 0.93 | 0.96 |
| STD DEV | 31.53 | 29.75 | 30.29 |
| % ACCEL | 7.56 | 12.70 | 12.59 |
| % CRUISE | 70.90 | 22.09 | 23.08 |
| % DECEL | 8.87 | 14.71 | 14.59 |
| % IDLE | 12.68 | 50.50 | 49.73 |

### POWER

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 1888. | 118470. | 120358. |
| TOTAL N | 3282. | 158574. | 161856. |
| MEAN | 19.15 | 7.34 | 7.52 |
| MEDIAN | 18.91 | 3.64 | 3.68 |
| STD DEV | 16.95 | 11.95 | 12.13 |
| % ACCEL | 12.07 | 10.29 | 10.33 |
| % CRUISE | 37.45 | 60.66 | 60.19 |
| % DECEL | 11.55 | 9.00 | 9.05 |
| % MOTOR | 38.94 | 20.04 | 20.43 |

### SPEED

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 3282. | 158574. | 161856. |
| MEAN | 30.19 | 9.04 | 9.47 |
| MEDIAN | 33.96 | 4.38 | 4.74 |
| STD DEV | 13.34 | 10.72 | 11.18 |
| % ZERO | 1.37 | 33.35 | 32.71 |
| % ACCEL | 37.51 | 26.63 | 26.85 |
| % CRUISE | 30.26 | 12.89 | 13.24 |
| % DECEL | 29.56 | 23.36 | 23.48 |
| % IDLE | 2.68 | 37.12 | 36.42 |

### INTERACTION STATISTICS

| | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 1906. | 118684. | 120590. |
| E(EXP) | 1356.37 | 421.96 | 436.73 |
| E(E)XE(P) | 1065.78 | 142.27 | 150.20 |
| COV(E,P) | 290.75 | 279.69 | 286.53 |
| R(E,P) | 0.514 | 0.769 | 0.766 |
| ** N | 3315. | 159100. | 162415. |
| E(SXE) | 2252.72 | 443.56 | 480.49 |
| E(S)XE(E) | 1884.04 | 214.86 | 232.58 |
| COV(S,E) | 368.78 | 228.71 | 247.91 |
| R(S,E) | 0.877 | 0.715 | 0.729 |
| ** N | 1906. | 118684. | 120590. |
| E(SXP) | 632.39 | 100.92 | 109.32 |
| E(S)XE(P) | 512.20 | 45.32 | 48.91 |
| COV(S,P) | 120.26 | 55.60 | 60.41 |
| R(S,P) | 0.494 | 0.506 | 0.516 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY

SUMMARY STATISTICS FOR NY TRUCK 83: BUSES

(RECORD COUNT = 46836, OPERATING TIME = 11.24 HRS)

| RPM | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 46836. | 46836. |
| MEAN | | 16.91 | 16.91 |
| MEDIAN | | -0.30 | -0.30 |
| STD DEV | | 24.19 | 24.19 |
| % ACCEL | | 13.13 | 13.13 |
| % CRUISE | | 17.92 | 17.92 |
| % DECEL | | 11.98 | 11.98 |
| % IDLE | | 56.96 | 56.96 |

| POWER | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| * N | 0. | 35603. | 35603. |
| TOTAL N | 0. | 46815. | 46815. |
| MEAN | | 24.54 | 24.54 |
| MEDIAN | | 3.97 | 3.97 |
| STD DEV | | 34.24 | 34.24 |
| % ACCEL | | 13.46 | 13.46 |
| % CRUISE | | 57.07 | 57.07 |
| % DECEL | | 11.50 | 11.50 |
| % MOTOR | | 17.97 | 17.97 |

| SPEED | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| N | 0. | 46815. | 46815. |
| MEAN | | 6.71 | 6.71 |
| MEDIAN | | 2.94 | 2.94 |
| STD DEV | | 8.16 | 8.16 |
| % ZERO | | 40.82 | 40.82 |
| % ACCEL | | 25.18 | 25.18 |
| % CRUISE | | 12.44 | 12.44 |
| % DECEL | | 23.80 | 23.80 |
| % IDLE | | 38.58 | 38.58 |

| INTERACTION STATISTICS | FREEWAY | NON-FREEWAY | COMBINED |
|---|---|---|---|
| ** N | 0. | 35615. | 35615. |
| E(EXP) | | 1179.74 | 1179.74 |
| E(E)XE(P) | | 421.53 | 421.53 |
| COV(E,P) | | 758.22 | 758.22 |
| R(E,P) | | 0.859 | 0.859 |
| ** N | 0. | 46836. | 46836. |
| E(SXE) | | 220.44 | 220.44 |
| E(S)XE(E) | | 113.17 | 113.17 |
| COV(S,E) | | 107.27 | 107.27 |
| R(S,E) | | 0.542 | 0.542 |
| ** N | 0. | 35615. | 35615. |
| E(SXP) | | 271.52 | 271.52 |
| E(S)XE(P) | | 115.10 | 115.10 |
| COV(S,P) | | 156.43 | 156.43 |
| R(S,P) | | 0.634 | 0.634 |

* FREQUENCY USED TO COMPUTE POWER MEAN, MEDIAN, AND STD DEV; EXCLUDES MOTORING FREQUENCY

** EXCLUDES MOTORING COLUMN FREQUENCY